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AEROSPACE MEDICAL RESEARCH LAB WRIGHT-PATTERSON AFB OHIO F/G 20/1  
USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK. VOLUME 97. T-39 AIRC--ETC(U)  
MAY 77 R G POWELL, N A FARINACCI  
AMRL-TR-75-50-VOL-97

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AMRL-TR-75-50-VOL-97  
Volume 97

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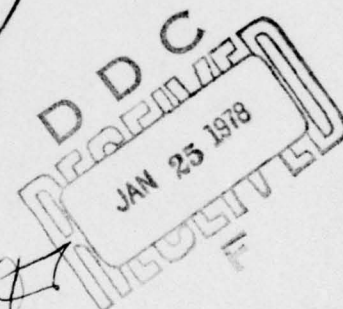


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**USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK.**

**Volume 97.**

**T-39 Aircraft, Near and Far-Field Noise**



9) *Technical rept.*

10) Robert G. / Powell  
Nick A. / Farinacci

11) MAY 1977

12) 98p.

16) 7231

17) 44

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AEROSPACE MEDICAL RESEARCH LABORATORY  
AEROSPACE MEDICAL DIVISION  
AIR FORCE SYSTEMS COMMAND  
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER AMRL-TR-75-50, Vol. 97	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) USAF BIOENVIRONMENTAL NOISE DATA HAND- BOOK: T-39 Aircraft, Near and Far- Field Noise		5. TYPE OF REPORT & PERIOD COVERED Volume 97 of a series
7. AUTHOR(s) Robert G. Powell Nick A. Farinacci, Capt, USAF, BSC		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS Aerospace Medical Research Laboratory Aerospace Medical Division, Air Force Systems Command, Wright-Patterson AFB OH		8. CONTRACT OR GRANT NUMBER(s)
11. CONTROLLING OFFICE NAME AND ADDRESS Same as above		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 62202F 7231-04-33 7231-04-36
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE May 1977
		13. NUMBER OF PAGES 98
		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report)  Approved for public release; distribution unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Noise T-39 Aircraft Noise Environments Bioenvironmental Noise Aircraft		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) → The USAF T-39 is a pilot proficiency trainer aircraft powered by two J60-P-3A turbojet engines. This report provides measured and extrapolated data defining the bioacoustic environments produced by this aircraft operating on a taxiway for four engine conditions. Near-field data are reported for six locations in a wide variety of physical and psychoacoustic measures: overall and band sound pressure levels, C-weighted and A-weighted sound levels, —		

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preferred speech interference level, perceived noise level, and limiting times for total daily exposure of personnel with and without standard Air Force ear protectors. Far-field data measured at 19 locations are normalized to standard meteorological conditions and extrapolated from 75-8000 meters to derive sets of equal-value contours for these same seven acoustic measures as functions of angle and distances from the source. Refer to Volume 1 of this handbook, "USAF Bioenvironmental Noise Data Handbook, Vol 1: Organization, Content and Application," AMRL-TR-75-50(1) 1975, for discussion of the objective and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc.

## PREFACE

This report was prepared by the Biodynamic Environment Branch, Aerospace Medical Research Laboratory, under Project/Task 723104, Measurement and Prediction of Noise Environments of Air Force Operations.

The authors gratefully acknowledge Mr. John Cole for his assistance in preparing this report, Mr. Jerry Speakman and Mr. Robert Lee for their assistance in acquiring the raw data, Mr. Keith Kettler, Mr. Henry Mohlman and Mr. David Eilerman of the University of Dayton for assistance in the mechanics of data processing, and Mrs. Peggy Massie and Mr. Mike Patterson for assistance in typing and preparation of the graphics.

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## INTRODUCTION

The USAF T-39A, B, and F are pilot proficiency trainer aircraft each of which are powered by two J60-P-3A turbojet engines. Since these aircraft are externally identical and have the same engines, their near and far-field noise characteristics are the same. These aircraft were manufactured by the Los Angeles Division of North American Rockwell and the engines by the Pratt and Whitney Aircraft Division of United Technologies Corporation.

This volume provides measured and extrapolated data defining bioacoustic environments produced by this aircraft during ground runup operations. Such data are essential to evaluate ear protection requirements, limiting personnel exposure times, voice communication capabilities, and annoyance problems associated with ground runups of the T-39 aircraft.

This volume is one of a series published by the AMRL under the same report number (AMRL-TR-75-50) as a multi-volume handbook that quantifies the noise environments produced at flight/ground crew locations and in surrounding communities by operations of Air Force aircraft and ground support equipment. The far-field, community-type, noise data in the handbook describe the noise produced during *ground operations* of aircraft, ground support equipment, and other ground-based equipment or facilities.

Volume 1 of this handbook discusses the objectives and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc. Volume 2 provides a method and data for adjusting the handbook's far-field noise data, which are for standard meteorological conditions (15 C temperature, 70% relative humidity, 0.760 meter Hg barometric pressure), to derive comparable data for other meteorological conditions. *Refer to Volumes 1 and 2* (references 1 and 2) for such information because it is not repeated in other handbook volumes.

A cumulative index lists those aerospace systems contained in the handbook, and identifies the specific volumes containing each type of environmental noise data available (i.e., inflight/flight crew and passenger noise, near-field/ground crew noise, far-field/community noise). Volume numbers are assigned sequentially as individual volumes are published. This index is periodically updated as individual volumes are published and is available upon request from AMRL/BBE, Wright-Patterson AFB, Oh 45433. Organizations on the distribution list for the handbook will automatically receive a copy of each updated index.

Direct any questions concerning the technical data in this report and other handbook volumes to: AMRL/BBE, Wright-Patterson AFB, OH 45433; AUTOVON 78-53675 or 78-53664; Commercial (513) 255-3675 or (513) 255-3664.

1. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 1: Organization, Content and Application*, AMRL-TR-75-50 (1) Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975.
2. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 2: Procedure to Evaluate Effects of Non-standard Meteorological Conditions on Far-Field Noise*, AMRL-TR-75-50 (2), Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975.

## NEAR-FIELD NOISE

### MEASUREMENTS

AMRL acquired near-field noise data on a T-39B aircraft during ground runup operations of its turbojet engines. For these tests the aircraft was located on a runup area at Langley AFB with no significant reflecting surfaces in the vicinity except the ground plane. Table 1 gives the engines' power conditions and nomenclature for ground crew locations. The ground-crew chief selected power conditions and near-field locations usually used during routine maintenance or engine runup for preflight checks.

At each near-field location a test engineer randomly moved a hand-held microphone in and around each location, probing all areas where a crew member's head would normally be located. He recorded all the noise samples on magnetic tape. During analysis of each sample, he determined the one-third octave band root-mean-square sound pressure using a 4- or 8-second integration time to derive a power-averaged level for each location. Figure 1 shows the six near-field locations where ground crew are usually located for maintenance and/or preflight checkout operations. Estimates of noise levels at other locations are difficult in the near-field since the noise source is spatially distributed, i.e., not a point source. The noise levels at near-field locations can vary widely depending upon relative distances from each noise source (intake noise, exhaust noise, panel resonances, internal engine noise through the engine wall, etc.).

Table 1 lists the numeric/alphabetic designators used on the data pages in this report to identify the measurement locations and test conditions. For example, the designator 1/A means ground crew location 1 and test condition A.

### RESULTS

The measured data presented in Table 2 define the sound pressure levels (SPL) produced by the T-39B aircraft at the 6 ground crew locations. This table includes the overall, 1/3 octave band and octave band levels. From these data one can calculate the variety of measures given in Table 3, which are widely used to assess the effects of noise on personnel and their performance.

All near-field data are for the meteorological conditions at the time of the tests but are valid for all typical airbase meteorology (winds  $\leq 5$  meters per second) because of the short sound propagation distances involved.

TABLE 1

MEASUREMENT LOCATIONS AND TEST CONDITIONS  
FOR NEAR-FIELD NOISE MEASUREMENTS

T-39B Aircraft, Ground Runup, Langley AFB  
Tail #592873 27 March 1975

*Ground Crew Location*

1	Marshal, Right Side
2	Marshal, Left Side
3	MD-3 Operator
4	Power Cable Disconnect
5	Chock Pull
6	Marshal, Forward

*Aircraft Engine and Ground Support Equipment Operation*

A	Engines Off, MD-3 On
B	Engine #2 Idle, MD-3 On
C	Both Engines Idle, MD-3 On
D	Both 65% RPM, MD-3 On (Hydraulic Pressurization)

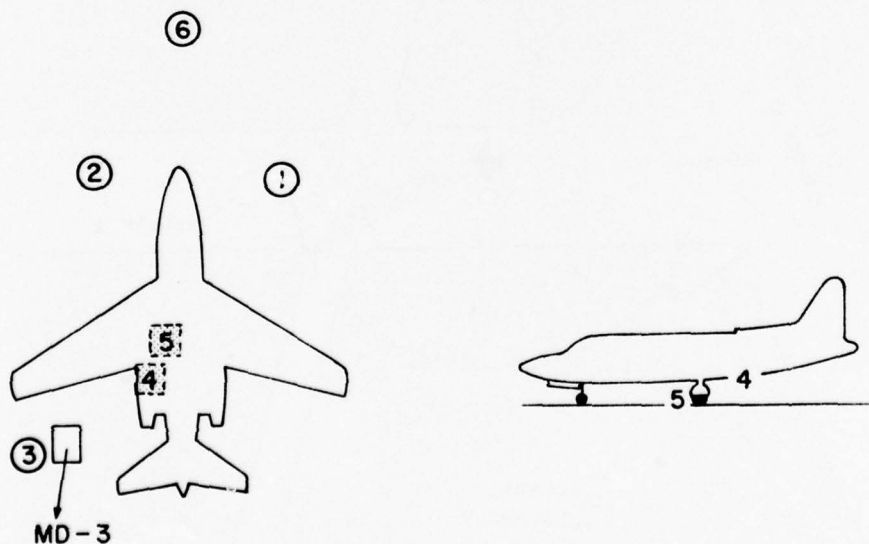


Figure 1. Near-Field Measurement Locations on  
Runup Pad Langley AFB, VA

## FAR-FIELD NOISE

### MEASUREMENTS

AMRL acquired far-field noise data on a T-39A aircraft during a 1-hour test period, thus keeping similar meteorological conditions throughout the test. Figure 2 shows the ground runup area (taxiway), ground cover, aircraft orientation and 19 microphone measurement sites on the semicircle. The center of the 75 meter radius semicircle used in surveying the J60-P-3A engines was on the ground directly below the intersection of the aircraft's centerline and the plane passing through both engines' exhaust-nozzle exits. The ground runup area did not have a blast deflector, therefore, the jet exhaust was in a "free flow" condition.

Table 4 provides cockpit readouts of engine characteristics for each power setting used in the far-field tests. Also listed in this table are the surface meteorological conditions during data acquisition.

All 19 microphone measurement sites are in the acoustic far-field of the source where the sound wave-fronts spherically diverge and the noise source may be regarded as a point source.

A portable microphone/tape-recorder system was used to sequentially record the noise at each far-field location. The microphone was attached to a hand-held pole, pointed at the source ( $0^\circ$  angle of incidence) and vertically scanned from 0.5 to 3 meters for a period of 5-10 seconds during data acquisition at each microphone location. These samples were then time-integrated to derive a root-mean-square sound pressure level. Vertical scanning and time-integrating together reduce anomalies frequently present in data acquired by a fixed height microphone.

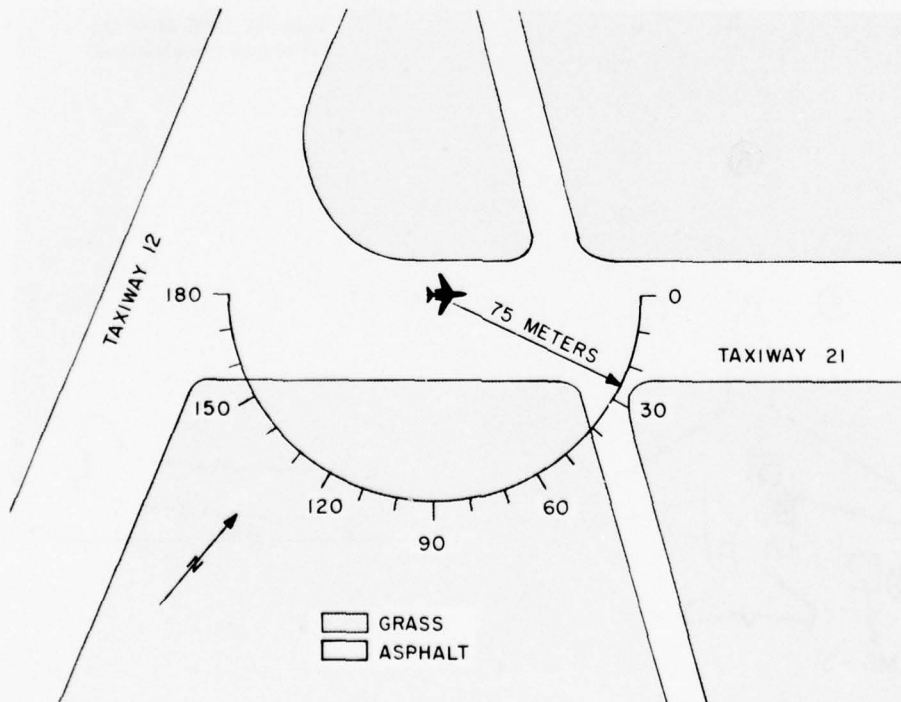


Figure 2. Far-Field Measurement Locations on Taxiway, Wright-Patterson AFB, OH

## RESULTS

Table 5 lists the overall and 1/3 octave band SPL measured at the far-field locations under meteorological conditions at the time of the test. Data in all other figures and tables are based on these levels. These data were normalized to 100 meters distance and standard meteorological conditions (15 C temperature, 70% relative humidity, 0.760 meter Hg barometric pressure) and used to derive the graphic data in Figure 3 which provides a compact summary of the far-field noise characteristics of the T-39A aircraft in a standard format.

Figure 4 and Table 6 present two basic acoustic measures, the acoustic power level and the directivity index, respectively. The acoustic power level describes the power radiated by the source as a function of frequency. The directivity index is a standard acoustical engineering measure that describes the geometric way in which the source radiates this power as a function of both frequency and angle from source. These basic source measures are primarily of interest for acoustical engineers and noise generation/control specialists.

Estimates of the noise levels for intermediate power settings (e.g., 1.6 EPR) and/or different number of engines operating (e.g., single engine) can be determined as explained in Volume 1 of this handbook.

Figures 5 through 11 are sets of equal noise contours describing seven different measures of noise as a function of angle and distance from the source for standard day meteorology. They are respectively, overall sound pressure level, C-weighted sound level, A-weighted sound level, perceived noise level, speech interference level, permissible exposure time for personnel and octave band sound pressure levels.

Data excessively influenced by spurious background/electronic noise were eliminated from all figures and tables. No data are presented at the 170 degree locations for the 75% and 85% RPM runups nor at the 170/180 locations for the maximum power setting because of turbulent air flow behind the aircraft. Typically, the A-weighted levels for these angles are 10 to 20 dBA below the level measured at the preceding microphone location.

Test personnel performed noise surveys during quiet periods when the background noise was minimal, e.g., early in the morning when no other aircraft or engine test stands were operating. Data eliminated because they were near the background/electronic noise were generally not significant because the levels were so low (e.g., Table 5 and Figure 11, 31.5 Hz idle power).

Volume 2 of the handbook describes the influence of meteorology on far-field noise environments, and provides, if required, the factors necessary to adjust the handbook's standard meteorological day data.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)									
1/3 OCTAVE BAND									
IDENTIFICATION:									
2									OMEGA 3.2
									TEST 75-005-002
									RUN 01
									17 APR 75
									PAGE F1
NOISE SOURCE/SUBJECT: ( OPERATION: )									
T-39B AIRCRAFT ( )									
GROUND CREW ( )									
NEAR FIELD NOISE LEVELS ( )									
LOCATION/CONDITION									
FREQ (HZ)	1/B	2/C	2/D	3/A	3/C	4/C	5/C	6/C	
25					87<	89<	89<		
31.5		80<	77<		87<	88	89		
40					87<	91<	90<		
50		86<	88<	95<	96<	99	99		
63				96<	98<	102	101		
80				90<	93<	95<	95<		
100		90<	88<	99	99	97	97<		
125		91<	89<	100	99	100	96<		
160	90<	93<	91<	100	99	99	98		
200		89<	89<	99	95	96	98		
250	87<	89<	89<	100	99	98	97		
315	86<	86<	91<	94<	95	102	93<	83<	
400			86<	89<	94	100	98		
500	81<	87	91	90	92	101	102		
630	82<	86	93	90	91	97	93		
800	84	86	89	88	91	99	97	73<	
1000	91	90	90	90	92	102	100	83	
1250	100	98	92	89	91	101	98	93	
1600	89	90	93	91	93	101	95	87	
2000	88	92	95	97	96	99	94	86	
2500	92	99	95	87	90	102	95	90	
3150	93	95	95	85	88	100	95	89	
4000	97	99	110	88	91	104	97	91	
5000	102	108	101	83	91	107	100	97	
6300	102	104	100	79	89	104	99	93	
8000	109	107	110	77	95	108	103	99	
10000	106	106	105	74	96	108	102	98	
12500	104	106	110	72	92	103	97	97	
16000	105	105	108	68	90	101	94	97	
20000	103	103	105	66	88	97	90	93	
OVERALL	114	115	116	108	109	116	112	106	

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)									
2 OCTAVE BAND									
NOISE SOURCE/SUBJECT: ( OPERATION: )									
T-39B AIRCRAFT									
GROUND CREW									
NEAR FIELD NOISE LEVELS									
LOCATION/CONDITION									
FREQ (HZ)	1/B	2/C	2/D	3/A	3/C	4/C	5/C	6/C	IDENTIFICATION:
31.5					92	94	94		OMEGA 3.2
63				99	101	104	104		TEST 75-005-002
125			94	104	103	104	102		RUN 01
250	89	93	95	103	101	104	101		17 APR 75
500	84	89	96	94	97	104	104		PAGE J1
1000	100	99	95	94	96	105	103	93	
2000	95	100	99	98	98	105	99	93	
4000	103	108	110	91	95	109	102	98	
8000	111	111	111	82	99	112	106	102	
16000	109	109	112	74	95	106	99	100	
OVERALL	114	115	116	108	109	116	112	106	

TABLE: MEASURES OF HUMAN NOISE EXPOSURE										IDENTIFICATION:	
3										OMEGA 3.2	
NOISE SOURCE/SUBJECT:										TEST 75-005-002	
( OPERATION:										RUN 01	
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\* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.  
PP EAR PROTECTION REQUIRED TO AVOID HIGH FREQUENCY, WHOLE BODY EFFECTS.

TABLE 4  
TEST CONDITIONS  
FOR FAR-FIELD NOISE MEASUREMENTS

T-39A Aircraft, Ground Runups, Wright-Patterson AFB OH  
1 August 1974

*Aircraft Engine Operation*

Idle	Both Engines 1.03 EPR, Engine Pressure Ratio (Calculated*) 30.05 Inches Hg, Engine Pressure, PT5
75%	Both Engines 1.25 EPR 36.5 Inches Hg, PT5
85%	Both Engines 1.46 EPR 42.5 Inches Hg, PT5
Takeoff Rated Thrust	Both Engines 1.93 EPR 56.5 Inches Hg, PT5

*Meteorology*

Temperature	27.8 C
Bar Pressure	0.742 M Hg
Rel Humidity	40 %
Wind — Speed	4.1 M/Sec (8 KTS)
— Direction	230 Deg

\*EPR = Engine Pressure ÷ Ambient Pressure

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																			IDENTIFICATION:	
1/3 OCTAVE BAND																				
DISTANCE = 75 METERS																				
NOISE SOURCE/SUBJECT:																				
( OPERATION: ) METEOROLOGY: ) TEMP = 28 C )																				
( T-39A AIRCRAFT ) ) BAR PRESS = .742 M HG )																				
( J60-P-3/A ENGINE ) ) REL HUMID = 40 % )																				
( FAR FIELD NOISE ) )																				
FREQ																				
( HZ)																				
ANGLE (DEGREES)																				

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																
1/3 OCTAVE BAND																
DISTANCE = 75 METERS																
NOISE SOURCE/SUBJECT:																
( OPERATION: )																
( 75% RPM POWER )																
( 36.5 IN HG, PT-5 )																
( BOTH ENGINES )																
( FREE FLOW )																
METEOROLOGY:																
( TEMP = 28 C )																
( BAR PRESS = .742 M HG )																
( REL HUMID = 40 % )																
PAGE 2																
IDENTIFICATION:																
OMEGA 1.4																
TEST 75-002-048																
RUN 02																
25 AUG 76																
FREQ (HZ)																
ANGLE (DEGREES)																
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180																
25	65<	62<	61<	64<	65<	62<	65<	56<	64<	64<	66<	68<	71<	73<	70<	68<
31.5	67<	65<	55<	64<	67<	67<	68<	59<	67<	68<	71<	72<	75<	77<	76<	73<
40	65<	65<	65<	64<	66<	67<	66<	56<	69<	71<	72<	74<	75<	81<	79<	73<
50	68<	70<	69<	69<	70<	70<	70<	71<	73<	73<	76<	77<	79<	83<	82<	81<
63	71<	70<	72<	72<	72<	72<	73<	74<	75<	75<	78<	80<	81<	85<	86<	83<
80	71<	71<	74<	74<	74<	74<	74<	74<	75<	75<	77<	80<	82<	87<	90<	86<
100	72<	72<	73<	72<	72<	72<	72<	74<	76<	75<	77<	79<	80<	85<	89<	85<
125	74<	73<	75<	74<	73<	71<	72<	74<	76<	77<	79<	82<	87<	89<	85<	83<
150	76<	76<	78<	76<	73<	74<	73<	73<	74<	76<	79<	84<	87<	81<	80<	67<
200	77<	78<	77<	75<	72<	72<	71<	73<	75<	76<	78<	80<	83<	86<	78<	75<
250	81<	79<	77<	75<	73<	75<	75<	74<	73<	73<	76<	77<	81<	83<	85<	71<
315	79<	79<	76<	77<	73<	75<	75<	73<	72<	73<	75<	78<	79<	81<	84<	72<
400	77<	78<	76<	77<	73<	75<	76<	74<	72<	75<	77<	78<	79<	80<	83<	71<
500	77<	78<	77<	75<	73<	75<	76<	74<	73<	74<	76<	77<	79<	81<	82<	70<
630	73<	76<	75<	74<	73<	74<	74<	72<	74<	76<	77<	79<	81<	82<	71<	69<
800	71<	74<	74<	74<	73<	73<	75<	72<	73<	76<	77<	79<	81<	80<	81<	70<
1000	71<	75<	72<	74<	72<	74<	74<	73<	72<	76<	77<	79<	81<	80<	81<	70<
1250	74<	75<	73<	74<	73<	74<	75<	73<	72<	76<	78<	81<	81<	81<	79<	68<
1600	74<	75<	73<	73<	72<	73<	73<	73<	72<	76<	77<	77<	77<	77<	73<	64<
2000	74<	76<	75<	75<	73<	74<	73<	72<	71<	74<	74<	74<	75<	75<	72<	64<
2500	79<	79<	81<	82<	81<	81<	79<	76<	75<	74<	75<	75<	76<	76<	71<	64<
3150	88<	87<	91<	93<	92<	92<	89<	85<	83<	76<	76<	78<	74<	75<	72<	64<
4000	73<	72<	74<	75<	72<	74<	73<	59<	65<	69<	70<	71<	71<	67<	58<	57<
5000	73<	71<	72<	73<	71<	71<	70<	56<	65<	66<	67<	69<	67<	65<	56<	46<
6300	76<	76<	75<	75<	74<	75<	75<	59<	65<	66<	65<	65<	66<	62<	55<	45<
8000	91	91	93	94	93	93	91	88	88	89	91	93	95	98	93	91
10000	91	91	93	94	93	93	91	88	88	89	91	93	95	98	93	91
OVERALL	91	91	93	94	93	93	91	88	88	89	91	93	95	98	93	91

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																
1/3 OCTAVE BAND																
DISTANCE = 75 METERS																
NOISE SOURCE/SUBJECT:																
OPERATION:																
T-39A AIRCRAFT																
J60-P-3/A ENGINE																
FAR FIELD NOISE																
FREQ (HZ)																
ANGLE (DEGREES)																
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180																
25	70<	71<	71<	65<	66<	68<	68<	58<	72<	58<	68<	71<	73<	75<	79	74<
31.5	68<	65<	70<	65<	66<	68<	68<	71<	74	59<	68<	70<	73	74	80	75
40	70<	67<	72	63<	68<	72	74	74	79	71	73	75	78	79	83	77
50	68<	68<	70	70	68<	69<	70	72	78	74	77	77	80	83	86	78
63	71	73	72	74	71	74	75	75	80	77	79	81	84	86	89	76
90	73	75	75	75	73	74	74	77	80	78	81	83	86	90	92	76
100	75	76	77	80	75	76	76	79	80	79	81	84	87	92	95	77
125	75	76	78	77	74	76	76	78	79	79	81	84	88	92	94	77
160	77	80	79	80	76	76	75	79	81	82	84	84	88	93	95	81
200	80	81	81	81	76	76	76	78	80	79	81	82	87	90	93	78
250	81	82	81	81	76	76	76	79	79	79	81	82	87	90	92	78
315	83	83	82	81	77	76	76	79	79	79	80	81	86	87	90	71
400	82	84	81	82	77	76	76	79	79	79	81	84	84	84	89	75
500	81	81	81	83	77	75	77	79	79	81	80	83	83	82	86	73
630	80	79	81	81	77	76	76	81	79	81	79	83	82	84	84	72
800	79	79	81	81	79	77	77	91	80	82	79	84	81	79	81	63
1000	78	77	80	80	79	75	76	81	81	83	81	85	79	79	82	70
1250	76	78	78	80	78	76	76	81	82	83	83	85	79	78	80	62
1600	77	80	78	81	79	77	77	82	83	83	81	86	79	80	81	68
2000	78	79	81	79	77	76	76	80	81	82	81	86	78	80	79	61
2500	78	79	82	81	77	78	78	82	80	80	79	84	75	78	78	59
3150	80	80	82	81	77	77	76	80	79	80	79	82	74	76	76	57
4000	79	80	81	81	79	78	76	80	79	81	81	84	75	76	76	55
5000	91	91	96	93	93	91	90	83	82	81	81	81	74	72	73	64
6300	85	84	88	84	85	84	82	80	80	78	77	78	71	73	70	52
8000	77	76	76	77	74	74	71	73	72	73	73	75	69	66	64	56
10000	77	76	79	78	76	75	72	72	70	68	67	70	63	63	62	50
OVERALL	95	95	98	96	95	94	93	94	94	94	94	97	97	100	103	89

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE 1		MEASURED SOUND PRESSURE LEVEL (DB)																	IDENTIFICATION:	
1/3 OCTAVE BAND																				
DISTANCE = 75 METERS																				
NOISE SOURCE/SUBJECT:																				
( OPERATION:																				
( MAXIMUM POWER																				
( 56.5 IN HG, PT-5																				
( BOTH ENGINES																				
( FREE FLOW																				
T-39A AIRCRAFT																				
J60-P-3/A ENGINE																				
FAR FIELD NOISE																				
METEOROLOGY:																				
( TEMP = 28 C																				
( BAR PRESS = .742 M HG																				
( REL HUMID = 40 %																				
PAGE 2																				
FREQ		ANGLE (DEGREES)																		
( HZ)		0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180																		
25		72<	69<	69<	70<	70<	72<	74<	74<	72<	73<	74<	77<	80	82	85	81			
31.5		73	69<	72	72	73	73	75	75	72	75	77	79	83	84	85	82			
40		74	74	74	75	73	76	77	78	80	75	79	80	83	88	88	83			
50		73	73	75	74	75	77	77	77	80	78	82	84	89	91	88	83			
53		77	77	78	78	77	78	80	79	81	81	83	87	91	92	94	91			
80		78	78	81	80	79	80	82	83	84	83	85	89	93	96	96	92			
100		81	81	85	83	81	83	84	85	85	88	90	95	98	98	92	79			
125		81	82	84	84	83	83	83	83	85	86	88	90	95	97	98	78			
160		85	85	87	85	83	83	83	83	85	86	89	93	97	99	89	78			
200		86	86	89	87	84	83	83	83	85	84	86	91	94	96	96	99			
250		88	88	89	88	84	83	83	83	84	83	85	89	95	95	89	80			
315		92	93	92	89	86	84	84	84	83	83	83	90	92	96	95	87			
400		92	92	91	89	85	86	85	85	86	87	86	90	92	95	93	95			
500		89	91	91	90	87	86	86	86	86	87	87	93	95	91	94	92			
630		87	90	92	89	88	87	87	87	88	90	90	94	97	91	93	90			
800		87	90	92	90	88	87	88	89	91	91	91	95	95	91	93	90			
1000		87	87	92	91	88	87	87	88	91	92	91	95	97	91	93	89			
1250		84	88	89	87	88	88	88	88	90	92	92	95	96	91	95	89			
1600		84	87	89	87	88	88	89	89	91	91	92	95	97	91	95	89			
2000		82	84	88	85	86	87	88	87	88	92	93	95	95	90	95	89			
2500		84	86	87	85	87	89	88	88	87	90	91	95	95	89	87	77			
3150		88	89	90	86	87	89	86	86	89	91	89	93	94	88	90	84			
4000		84	85	88	85	85	87	86	85	89	91	93	94	89	88	84	76			
5000		82	83	85	81	84	84	82	83	85	88	89	90	84	84	79	72			
6300		92	93	95	91	90	87	87	85	85	86	89	88	82	83	78	71			
8000		80	81	83	78	80	79	78	77	81	83	85	84	79	80	75	68			
10000		77	76	79	75	75	75	74	72	75	76	77	80	73	74	69	62			
OVERALL		100	102	103	101	99	99	99	99	99	101	102	102	106	108	108	102	94		
< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.																				

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

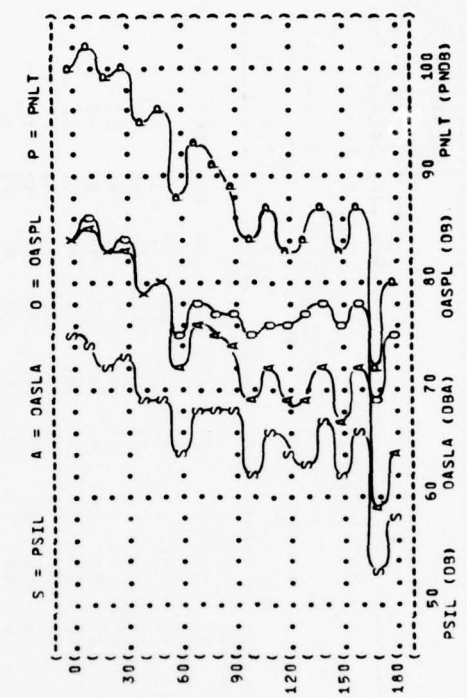
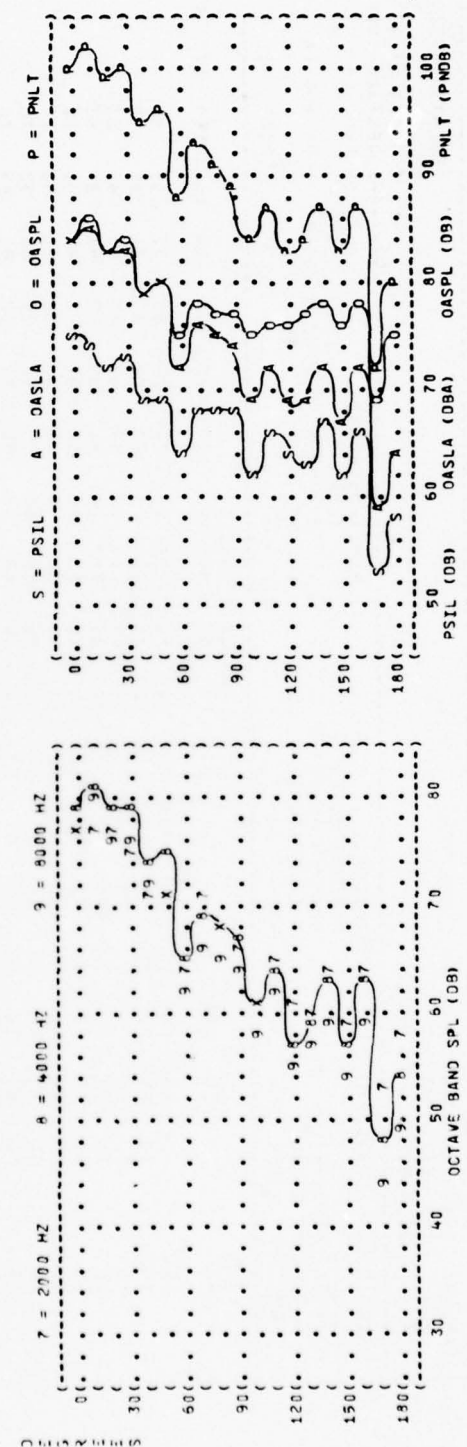
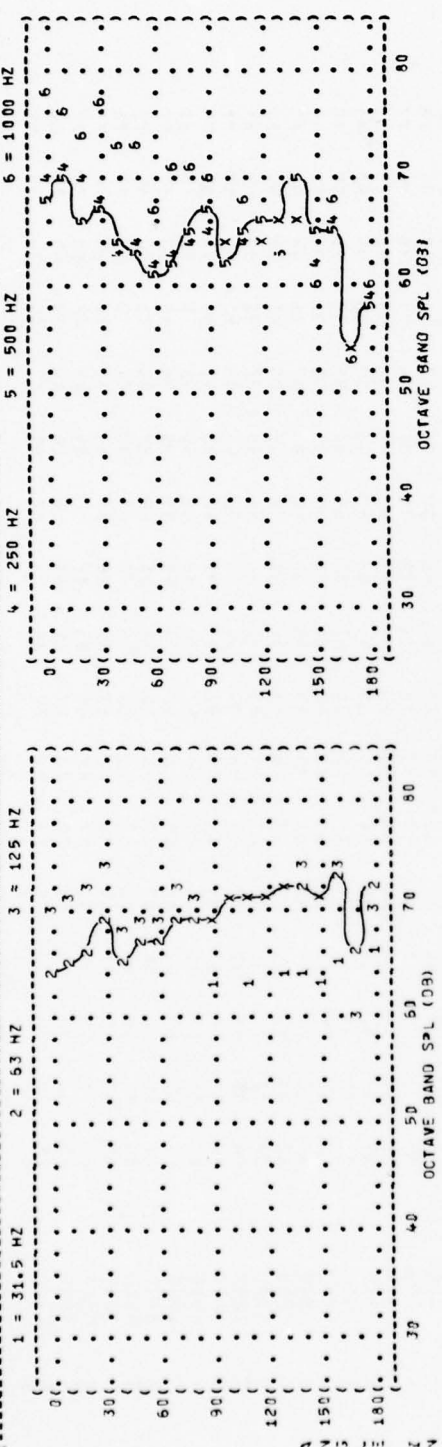
NOISE SOURCE/SUBJECT:

OPERATION:

IDLE POWER  
 30.0 IN HG, PT-5  
 BOTH ENGINES  
 FREE FLOW

METEOROLOGY:  
 TEMP = 15 C  
 BAR PRESS = .760 M HG  
 REL HUMID = 70 %

IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-002-046  
 RUN 01  
 25 AUG 76  
 PAGE 6



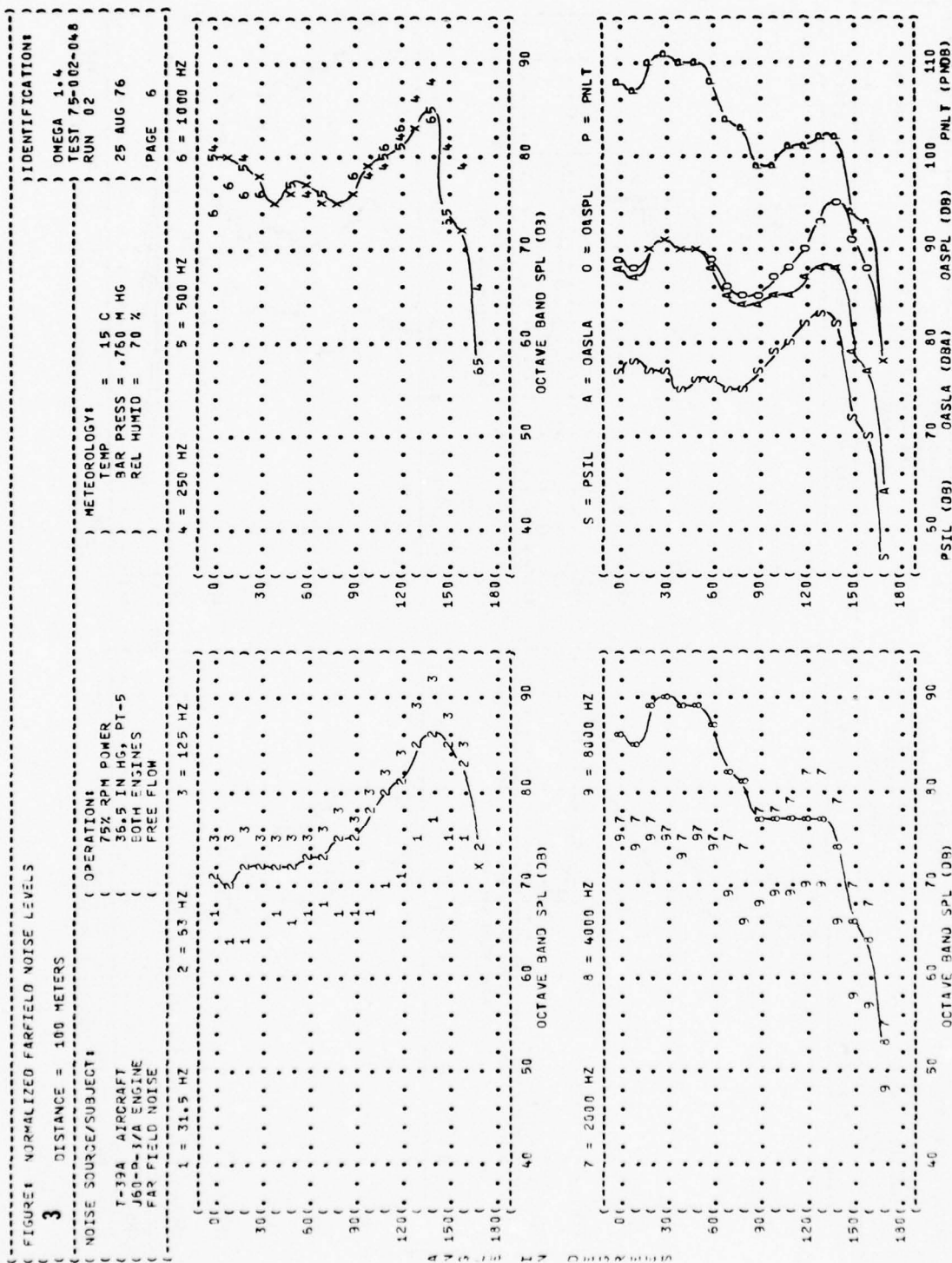


FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

OPERATIONS:

85% RPM POWER

42.5 IN HG, PT-5

ROTARY ENGINES

FREE FLOW

IDENTIFICATION:

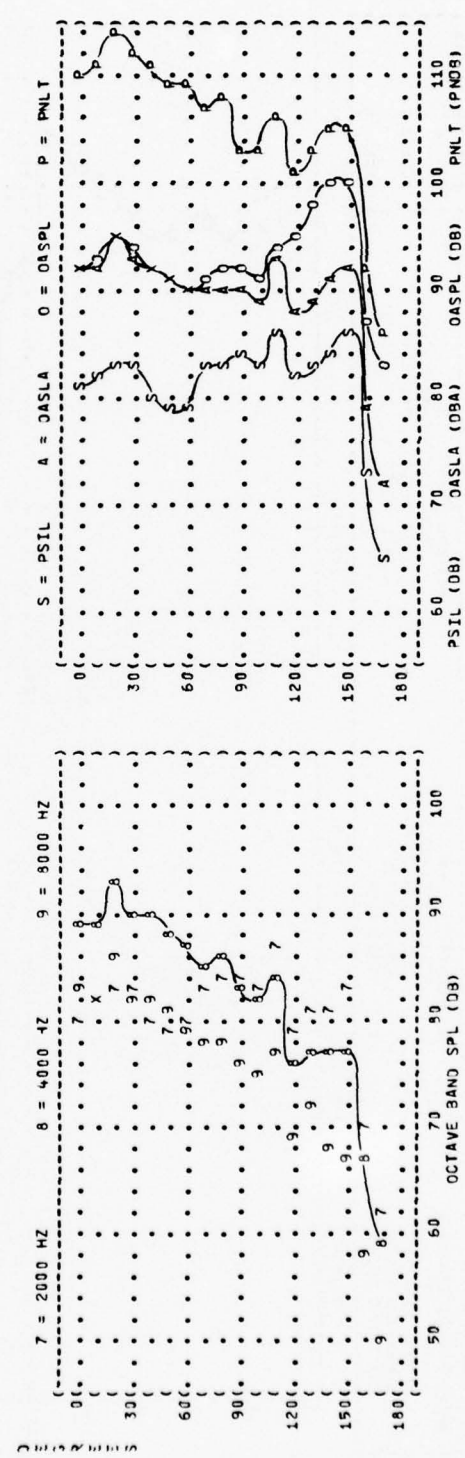
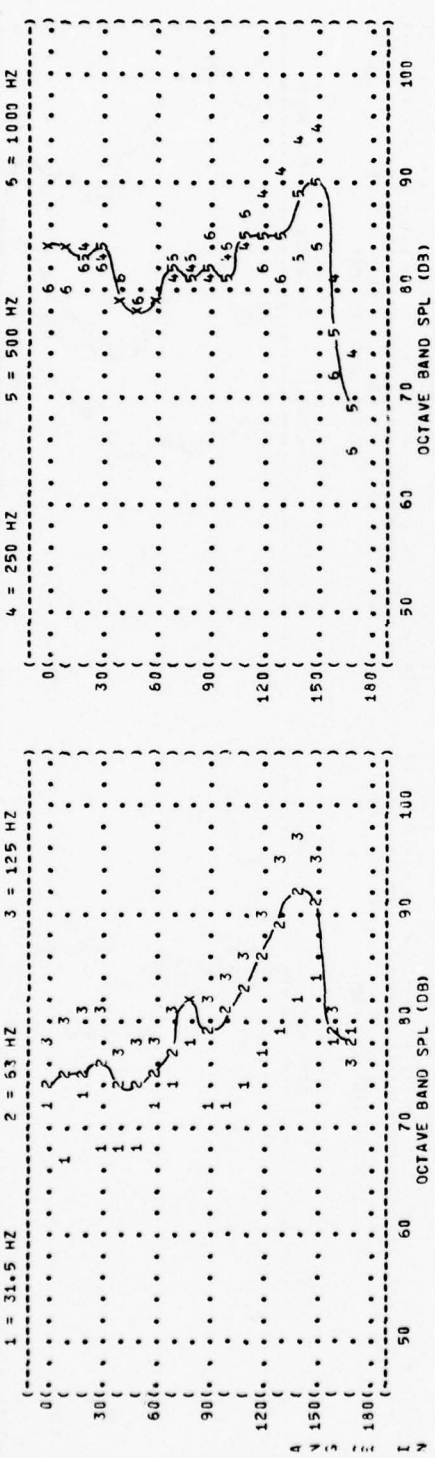
OMEGA 1.4

TEST 75-002-048

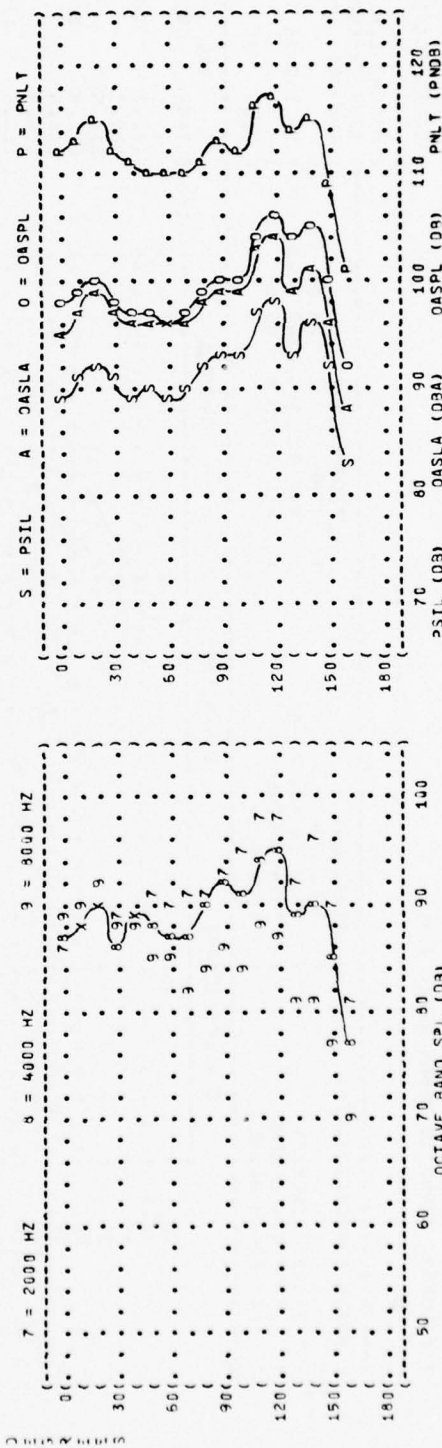
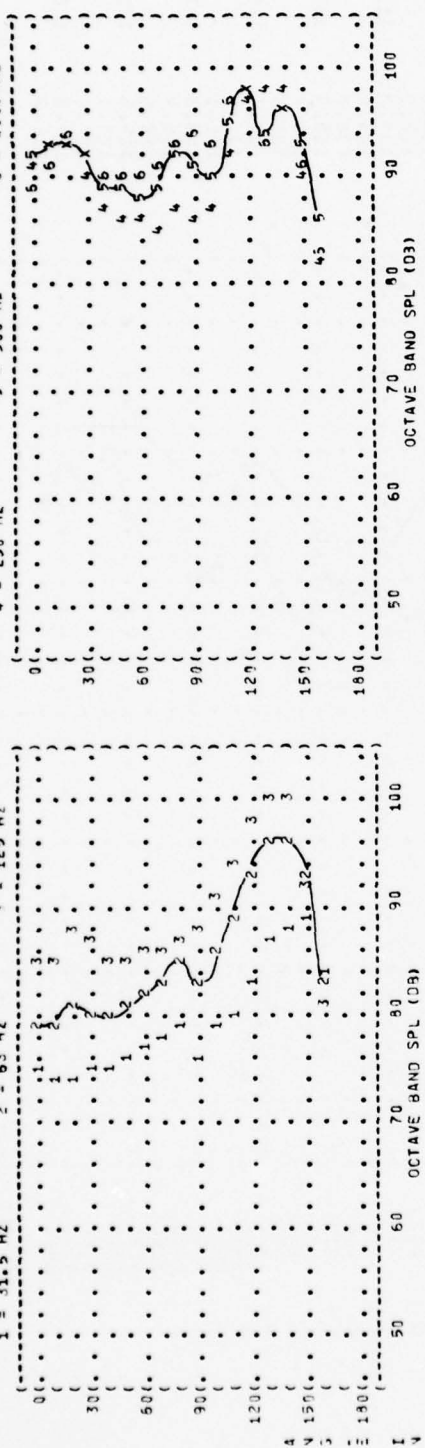
RUN 03

25 AUG 76

PAGE 6



( ( FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS  
 ( ( 3 DISTANCE = 100 METERS  
 ( ( NOISE SOURCE/SUBJECT:  
 ( ( T-33A AIRCRAFT  
 ( ( J60-P-3/A ENGINE  
 ( ( FAR FIELD NOISE  
 ( ( METEOROLOGICAL DATA:  
 ( ( TEMPERATURE = 15 C  
 ( ( BAR PRESSURE = 760 MM HG  
 ( ( REL HUMIDITY = 70 %  
 ( ( DATE: 25 AUG 76  
 ( ( PAGE: 6  
 ( ( IDENTIFICATION:  
 ( ( OMEGA 1.4  
 ( ( TEST 75-102-048  
 ( ( RUN 04



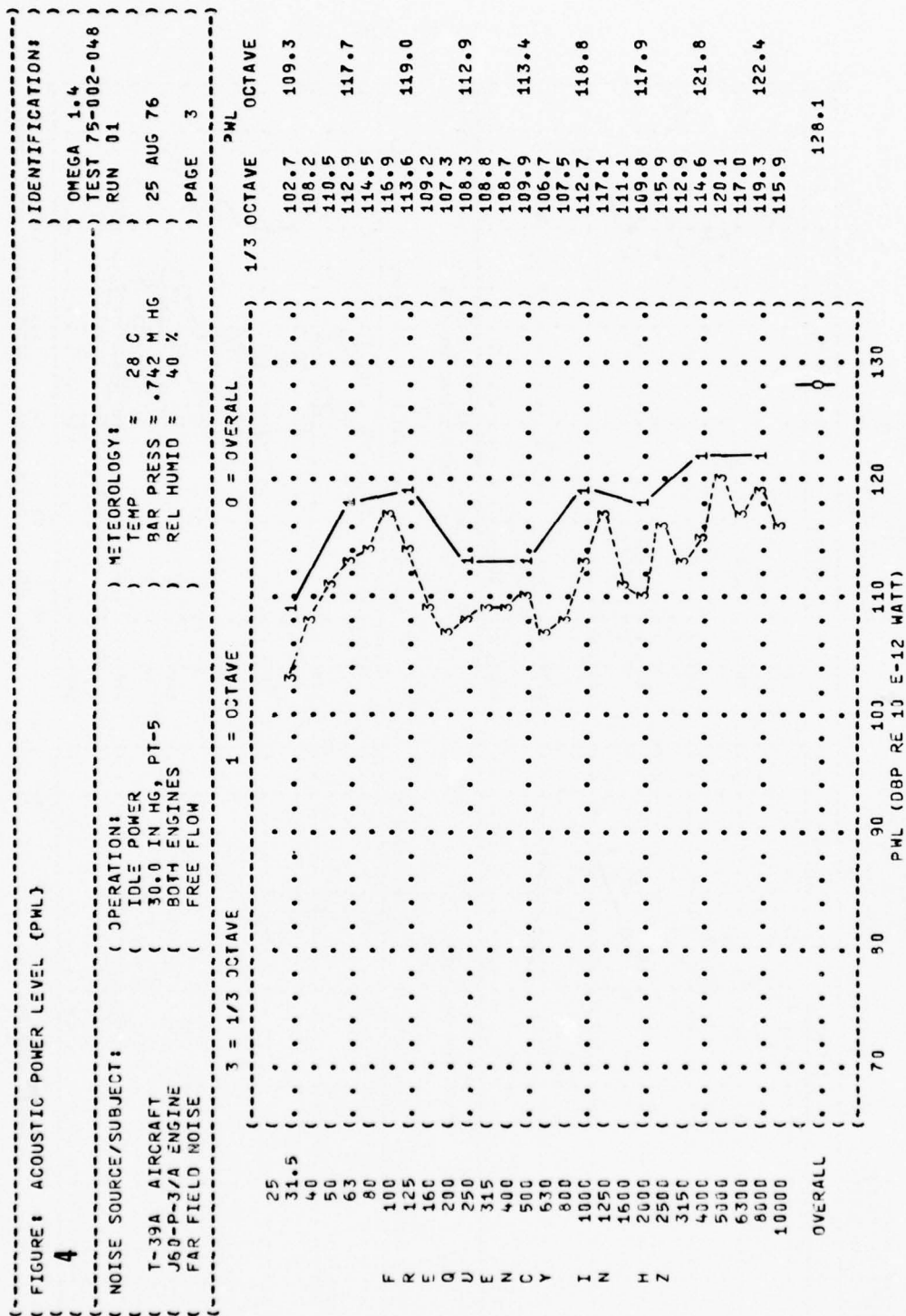


FIGURE: ACOUSTIC POWER LEVEL (PWL)

4

IDENTIFICATION:

OMEGA 1.4

TEST 75-002-048

RUN 02

25 AUG 76

PAGE 3

NOISE SOURCE/SUBJECT:

OPERATION:

75% RPM POWER

36.5 IN HG, PT-5

BOTH ENGINES

FREE FLOW

METEOROLOGY:

TEMP = 28 C

BAR PRESS = 742 M HG

REL HUMID = 40 %

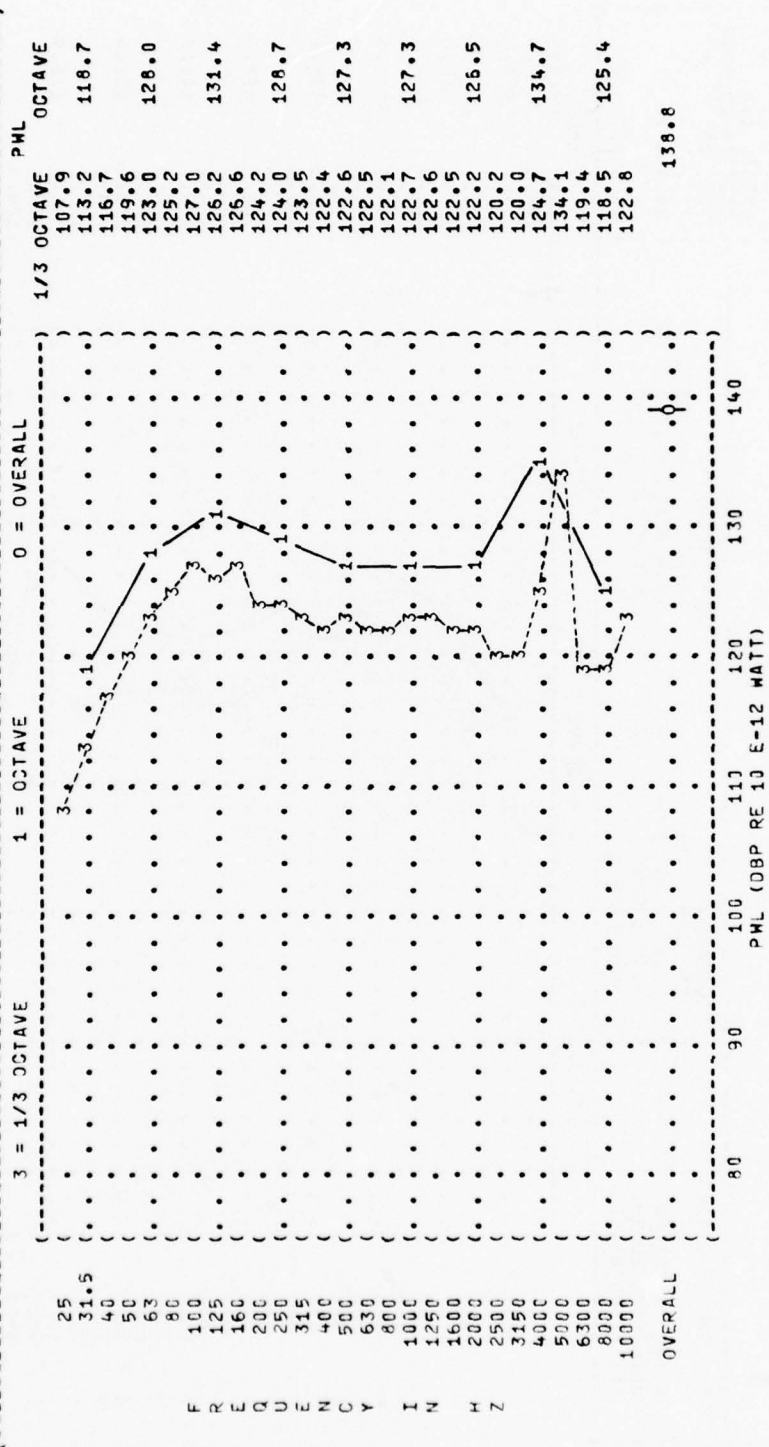






TABLE: DIRECTIVITY INDEX (DB)																	IDENTIFICATION:	
6																	OMEGA 1.4	
																	TEST 75-002-048	
																	RUN 01	

TABLE: DIRECTIVITY INDEX (D3)																
IDENTIFICATION:																
6																
NOISE SOURCE/SUBJECT:																
T-39A AIRCRAFT																
J60-P-3/A ENGINE																
FAR FIELD NOISE																
OPERATION:																
( 75% RPM POWER																
( 38.5 IN HG, PT-5																
( BOTH ENGINES																
( FREE FLOW																
METEOROLOGY:																
TEMP = 28 C																
BAR PRESS = .742 M HG																
REL HUMID = 40 %																
PAGE 4																
TEST 75-002-048																
RUN 02																
OMEGA 1.4																
25 AUG 76																
FREQ (HZ)																
ANGLE (DEGREES)																
1/3 OCTAVE																
25																
31.5																
40																
50																
63																
80																
100																
125																
160																
200																
250																
315																
400																
500																
630																
800																
1000																
1250																
1600																
2000																
2500																
3150																
4000																
5000																
6300																
8000																
10000																
OCTAVE																
31.5																
63																
125																
250																
500																
1000																
2000																
4000																
8000																
OVERALL																

TABLE: DIRECTIVITY INDEX (DB)																
6																
IDENTIFICATION:																
) OMEGA 1.4																
TEST 75-002-048																
) RUN 03																
NOISE SOURCE/SUBJECT:																
) OPERATION:																
) 85% RPM POWER																
) 42.5 IN HG, PT-5																
) 90TH ENGINES																
) FREE FLOW																
) TEMP = 28 C																
) BAR PRESS = .742 M HG																
) REL HUMID = 40 %																
) PAGE 4																
FREQ																
( HZ)																
1/3 OCTAVE																
25																
31.5																
40																
50																
63																
80																
100																
125																
160																
200																
250																
315																
400																
500																
630																
800																
1000																
1250																
1600																
2000																
2500																
3150																
4000																
5000																
6300																
8000																
10000																
OCTAVE																
31.5																
63																
125																
250																
500																
1000																
2000																
4000																
8000																
OVERALL																

TABLE: DIRECTIVITY INDEX (DB)																
IDENTIFICATION:																
6																
NOISE SOURCE/SUBJECT:																
OPERATION:																
MAXIMUM POWER																
56.5 IN HG, PT-5																
BOTH ENGINES																
FREE FLOW																
METEOROLOGY:																
TEMP = 28 C																
BAR PRESS = .742 M HG																
REL HUMID = 40 %																
PAGE 4																
TEST 75-002-048																
RUN 04																
OMEGA 1.4																
25 AUG 76																
FREQ (HZ)																
ANGLE (DEGREES)																
1/3 OCTAVE																
25	-5	-8	-8	-7	-7	-7	-5	-3	-3	-5	-4	-3	-2	0	3	5
31.5	-6	-9	-6	-6	-6	-5	-3	-3	-3	-5	-3	-3	-2	0	3	5
40	-8	-9	-9	-7	-7	-7	-5	-4	-4	-7	-4	-4	-3	1	5	6
50	-12	-9	-11	-9	-7	-7	-7	-4	-4	-5	-3	-3	-0	4	5	7
63	-10	-9	-9	-10	-9	-10	-8	-5	-5	-6	-4	-4	-1	3	6	6
80	-11	-11	-8	-9	-10	-10	-7	-5	-5	-7	-4	-4	-1	4	7	6
100	-10	-7	-9	-10	-9	-10	-8	-7	-7	-7	-4	-4	-1	5	6	6
125	-10	-8	-5	-8	-8	-8	-8	-8	-8	-5	-3	-3	-1	5	6	7
160	-7	-7	-5	-6	-3	-9	-9	-7	-7	-6	-4	-4	-1	5	7	5
200	-4	-4	-1	-3	-5	-7	-7	-7	-7	-5	-4	-4	-1	4	6	6
250	-2	0	-1	-2	-5	-7	-7	-7	-7	-5	-4	-4	-1	6	5	6
315	2	4	3	-1	-4	-5	-5	-7	-4	-6	-7	-3	2	5	5	5
400	2	2	1	-1	-4	-4	-5	-4	-3	-4	-6	-3	2	5	3	5
500	-2	0	0	-3	-5	-5	-5	-5	-3	-3	-4	-3	3	5	1	4
630	-4	-1	0	-2	-4	-4	-4	-4	-1	-1	-1	-1	3	5	0	2
800	-4	-1	1	-1	-4	-4	-4	-4	-2	-1	-1	-1	3	5	0	1
1000	-4	-4	0	-1	-4	-4	-4	-4	-2	-1	0	0	4	4	0	1
1250	-7	-4	-2	-4	-4	-4	-4	-2	-2	-1	0	0	4	4	0	3
1600	-8	-5	-5	-5	-4	-3	-3	-4	-4	-1	-1	-1	4	3	0	3
2000	-10	-7	-4	-6	-5	-4	-4	-4	-4	-2	-1	0	4	3	0	3
2500	-7	-5	-4	-5	-3	-2	-3	-3	-3	-2	0	0	4	3	2	2
3150	-2	-1	1	-3	-1	-2	-4	-4	-4	-2	-1	-1	4	4	0	0
4000	-5	-5	-2	-5	-3	-2	-4	-5	-3	-2	1	1	4	4	0	-1
5000	-4	-3	-1	-5	-2	-2	-4	-3	-3	-2	2	2	3	4	-2	-2
6300	4	5	7	3	3	-3	-1	-3	-3	-2	-2	-2	1	0	-6	-5
8000	-1	-0	2	-3	-2	-3	-3	-4	-4	-2	2	2	5	3	-2	-2
10000	1	-0	3	-1	-1	-1	-2	-4	-4	0	1	4	3	-2	-2	-7
OCTAVE																
31.5	-7	-8	-8	-7	-8	-6	-5	-4	-3	-6	-4	-2	-2	1	5	6
63	-11	-11	-8	-9	-10	-9	-7	-7	-5	-6	-4	-2	-0	4	6	7
125	-9	-8	-6	-7	-9	-9	-8	-7	-5	-6	-3	-0	0	5	6	7
250	-1	1	0	-2	-5	-5	-6	-7	-5	-5	-3	-0	0	4	6	6
500	-1	0	0	-1	-4	-4	-5	-4	-1	-2	-3	-2	2	5	1	3
1000	-5	-3	-0	-2	-4	-4	-4	-3	-1	0	-0	-0	3	5	0	2
2000	-8	-6	-4	-5	-5	-3	-3	-3	-2	-0	1	4	4	5	-2	3
4000	-3	-2	-0	-4	-2	-2	-4	-4	-1	2	1	4	4	4	-1	-1
8000	3	5	7	2	2	-1	-1	-3	-1	0	-1	2	2	1	-5	-4
OVERALL																
	-4	-2	-1	-3	-4	-4	-5	-4	-2	-2	-1	2	4	3	4	-1
																-9

( ( FIGURE# OVERALL SOUND PRESSURE LEVEL (OASPL)  
( ( EQUAL LEVEL CONTOURS (DB)  
( ( 5  
( ( NOISE SOURCE/SUBJECT: ( OPERATION:  
( ( T-39A AIRCRAFT ( IDLE POWER  
( ( J60-P-3/A ENGINE ( 30.0 IN HG, PT-5  
( ( FAR FIELD NOISE ( BOTH ENGINES  
( ( ( FREE FLOW  
( ( METEOROLOGY: = 15 C  
( ( TEMP  
( ( BAR PRESS = .760 M HG  
( ( REL HUMID = 70 %  
( ( PAGE 13  
) IDENTIFICATION:  
) OMEGA 1.4  
) TEST 75-002-048  
) RUN 01  
) 25 AUG 76



5

NOISE SOURCE/SUBJECT:

( OPERATION:

## ● METEOROLOGY:

T-39A AIRCRAFT	( 85% RPM POWER )	TEMP = 15 C
J60-P-3/A ENGINE	( 42.5 IN HG, PT-5 )	BAR PRESS = .760 M HG
	( BOTH ENGINES )	REL HUMID = 70 %

T-39A AIRCRAFT

J60-P-3/A ENGINE

( 42.5 IN HG, P

( BOTH ENGINES

FLOW FREE

OMEGA 1.4

TEST 75-002-048

**RUN 03**

25 AU3 76

**PAGE 13**

DB	POINT
0	A
10	B
20	C
30	D
40	E
50	F
60	G
70	H
80	I
90	J
100	K

ANGLE IN DEGREES

1000  
DISTANCE FROM SOURCE (METERS)

[illegible]

31

**IDENTIFICATION:**

**OMEGA 1.4**

## METEOROLOGY:

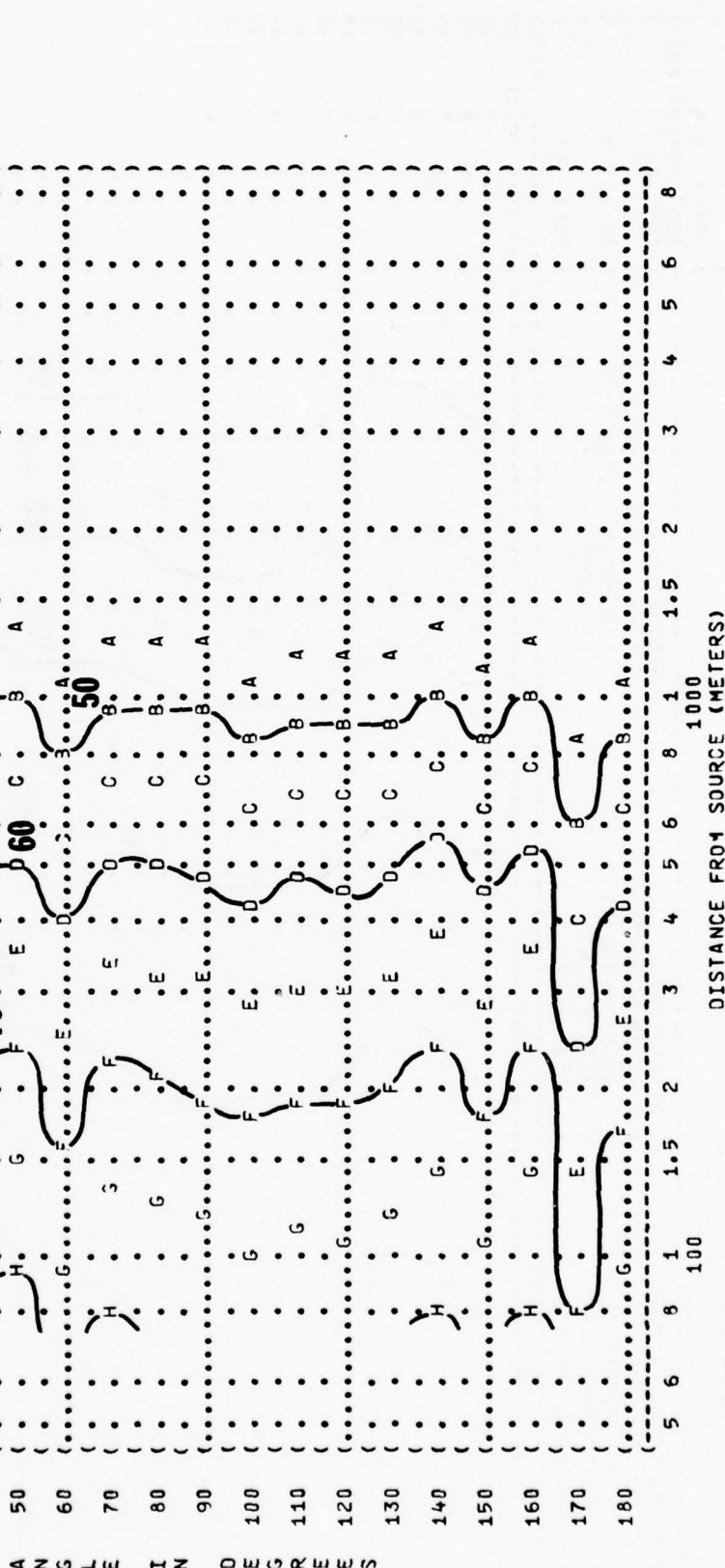
**RUN 01**

TEMP = 15 C  
BAR PRESS = .760 M HG

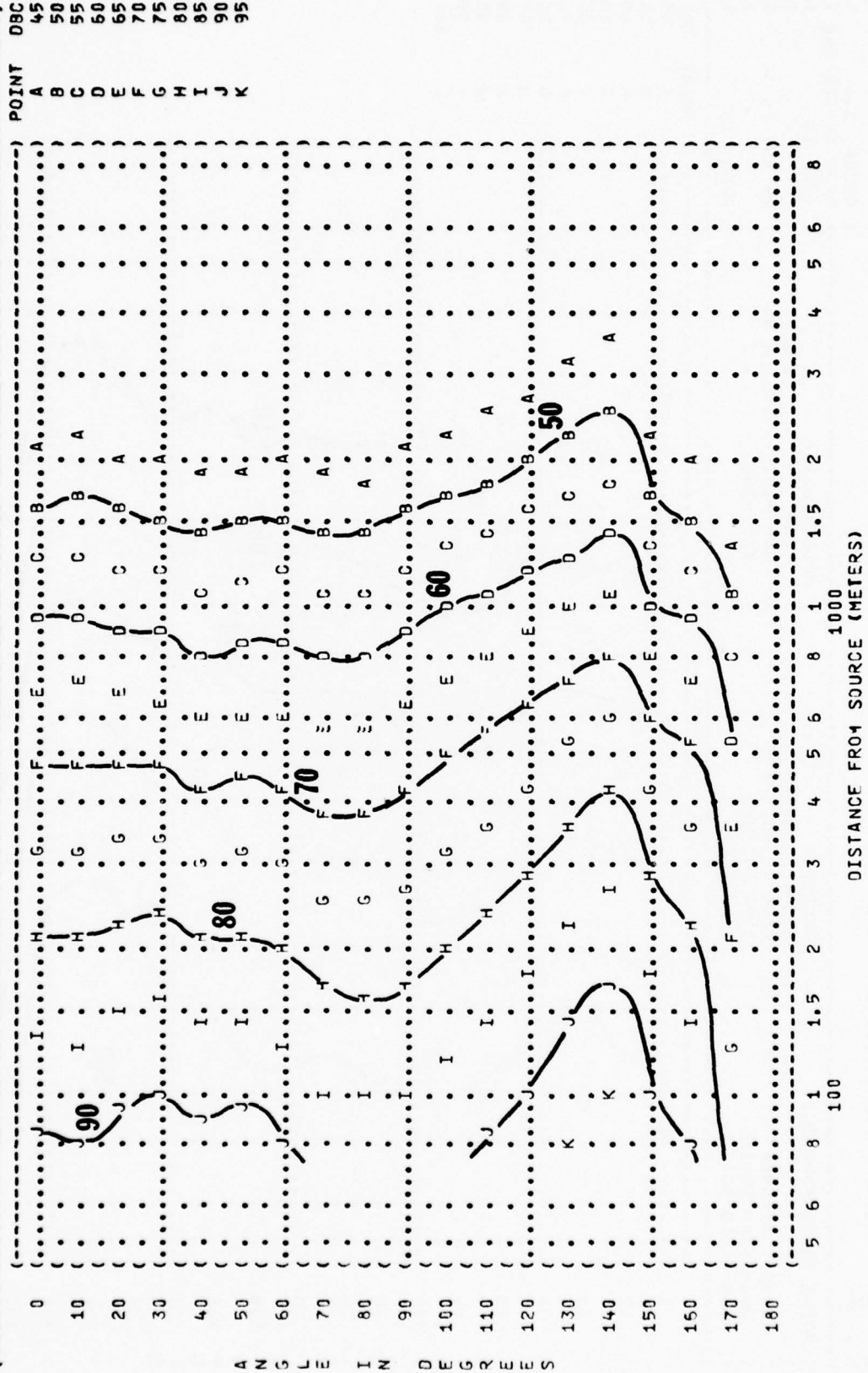
REL HUMID = 70 %

**PAGE 14**

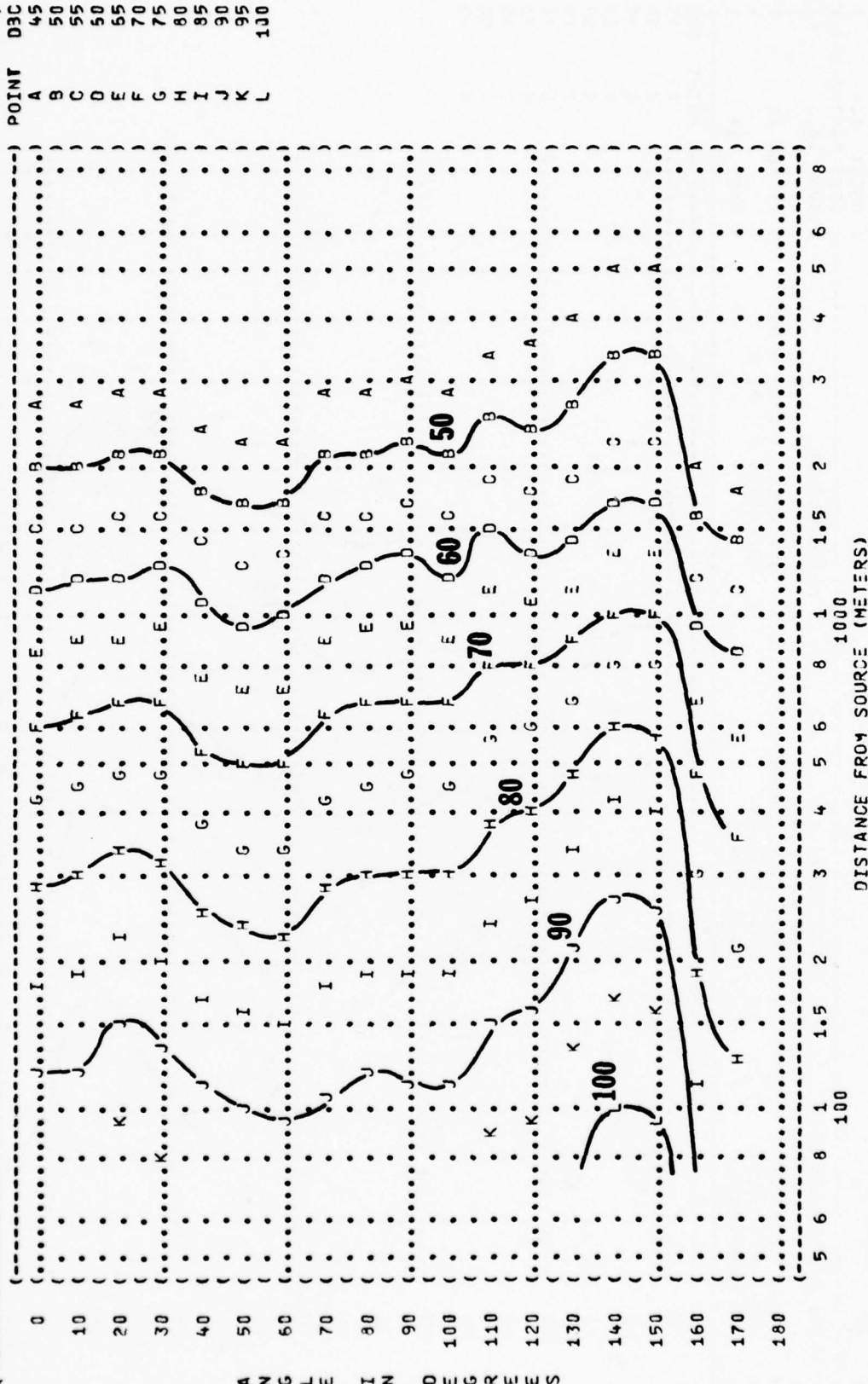
POINT	DBC
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85



( FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC) )  
 ( EQUAL LEVEL CONTOURS (DBC) )  
 ( 6 )  
 ( NOISE SOURCE/SUBJECT: )  
 ( ( OPERATION: ) )  
 ( ( 75% RPM POWER ) )  
 ( ( 36.5 IN HG, PT-5 ) )  
 ( ( BOTH ENGINES ) )  
 ( ( FREE FLOW ) )  
 ( T-39A AIRCRAFT )  
 ( J60-P-3/A ENGINE )  
 ( FAR FIELD NOISE )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-048 )  
 ( RUN 02 )  
 ( 25 AUG 76 )  
 ( PAGE 14 )  
 ( )

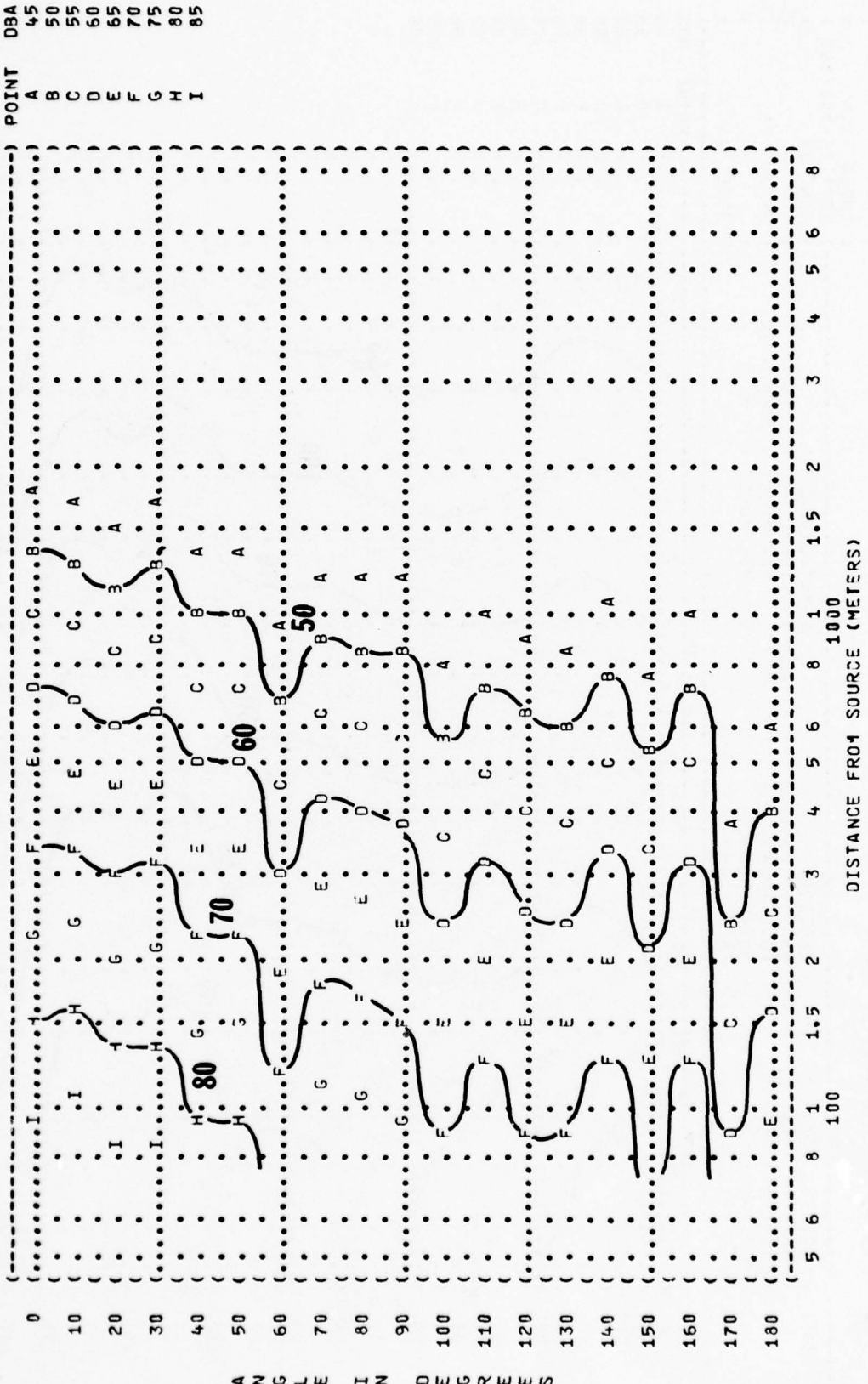


( FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC) )  
 ( 6 EQUAL LEVEL CONTOURS (DBC) )  
 ( ) IDENTIFICATION: )  
 ( ) OMEGA 1.4 )  
 ( TEST 75-002-048 )  
 ( ) RUN 33 )  
 ( NOISE SOURCE/SUBJECT: )  
 ( ) METEOROLOGY: )  
 ( ) OPERATION: )  
 ( ) 85% RPM POWER )  
 ( ) 42.5 IN HG, PT-5 )  
 ( ) BOTH ENGINES )  
 ( ) FREE FLOW )  
 ( ) TEMP = 15 C )  
 ( ) BAR PRESS = .760 M Hg )  
 ( ) REL HUMID = 70 % )  
 ( ) 25 AUG 76 )  
 ( ) PAGE 14 )  
 ( )





( FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (OASLA) )  
 ( 7 EQUAL LEVEL CONTOURS (DBA) )  
 ( NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: )  
 ( T-39A AIRCRAFT ( IDLE POWER ) TEMP = 15 C )  
 ( J60-P-3/A ENGINE ( 30.0 IN HG, PT-5 ) BAR PRESS = .760 M HG )  
 ( FAR FIELD NOISE ( BOTH ENGINES ) REL HUMID = 70 % )  
 ( ( FREE FLOW ) )  
 ( TEST 75-002-048 )  
 ( RUN 01 )  
 ( 25 AUG 76 )  
 ( PAGE 15 )





( ( FIGURE: A-WEIGHTED OVERALL SOUND LEVEL {OASLA}  
( ( EQUAL LEVEL CONTOURS (D3A)  
( ( 7  
( ( -----  
( ( NOISE SOURCE/SUBJECT: ( OPERATION: ( METEOROLOGY:  
( ( ( 85% RPM POWER ( TEMP = 15 C  
( ( ( 42.5 IN HG, PT-5 ( BAR PRESS = .760 M HG  
( ( ( BOTH ENGINES ( REL HUMID = 70 %  
( ( ( FREE FLOW ( )  
( ( T-39A AIRCRAFT  
( ( J60-P-3/A ENGINE  
( ( FAR FIELD NOISE  
( ( -----  
( ( IDENTIFICATION: )  
( ( )  
( ( ) OMEGA 1.4  
( ( ) TEST 75-002-048  
( ( ) RUN 03  
( ( ) 25 AUG 76  
( ( )  
( ( ) PAGE 15  
( ( -----



FIGURE 7 A-WEIGHTED OVERALL SOUND LEVEL (OASLA)  
 EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-002-048  
 RUN 04

NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY:  
 ( MAXIMUM POWER ) TEMP = 15 C  
 ( 56.5 IN HG, PT-5 ) BAR PRESS = .760 M HG  
 ( BOTH ENGINES ) REL HUMID = 70 %  
 ( FREE FLOW )

T-39A AIRCRAFT  
 J60-P-3/A ENGINE  
 FAR FIELD NOISE

PAGE 15

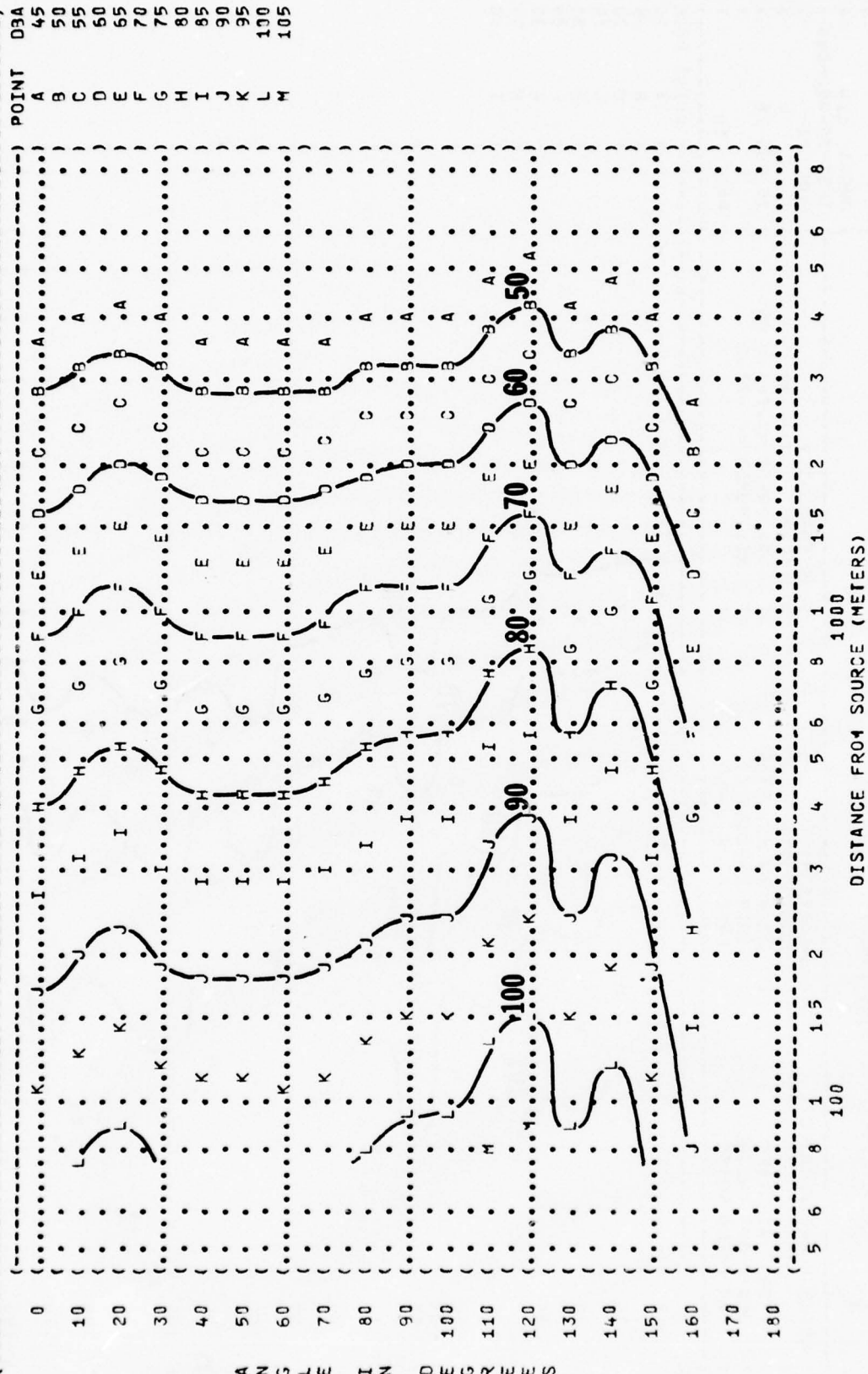
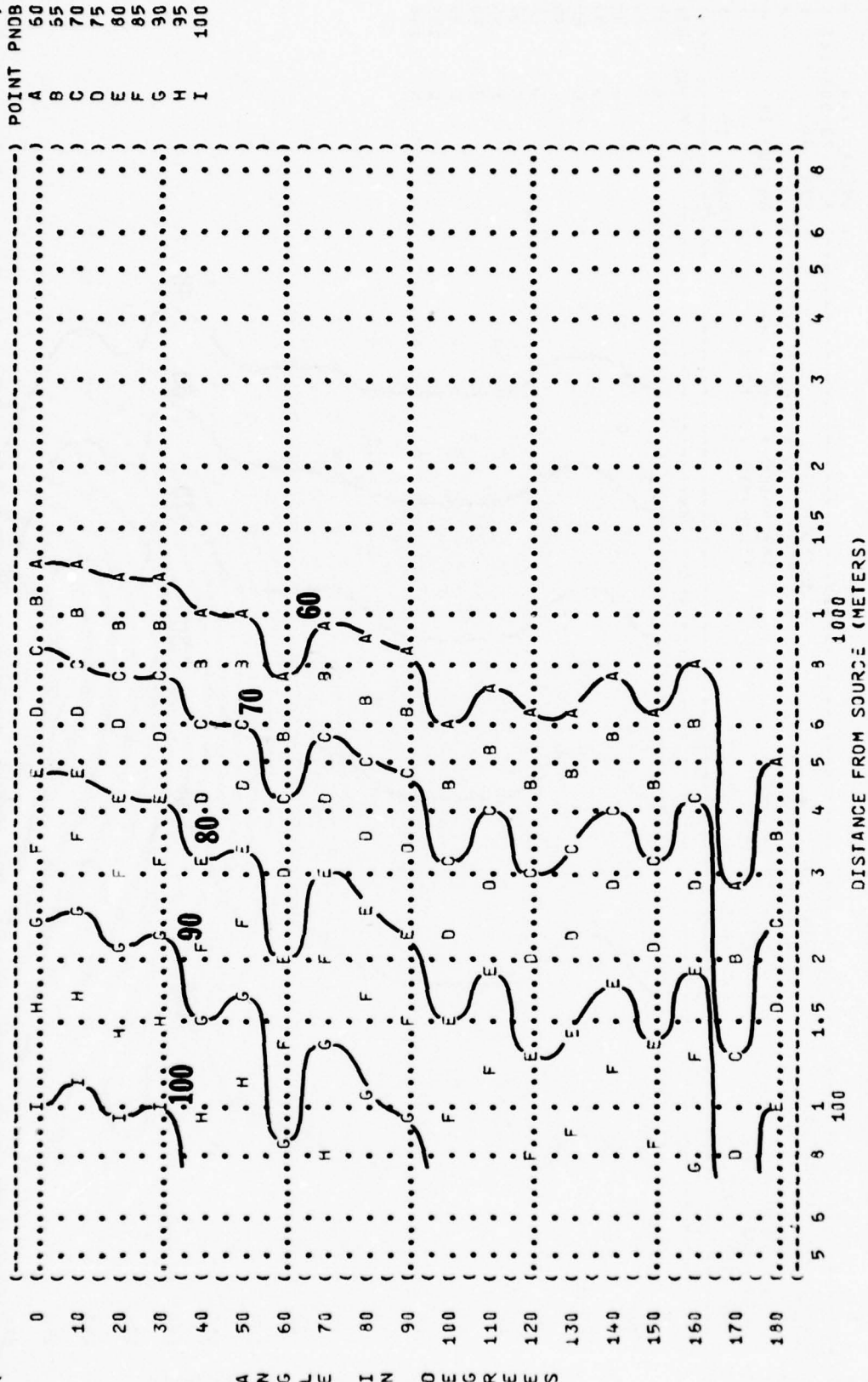
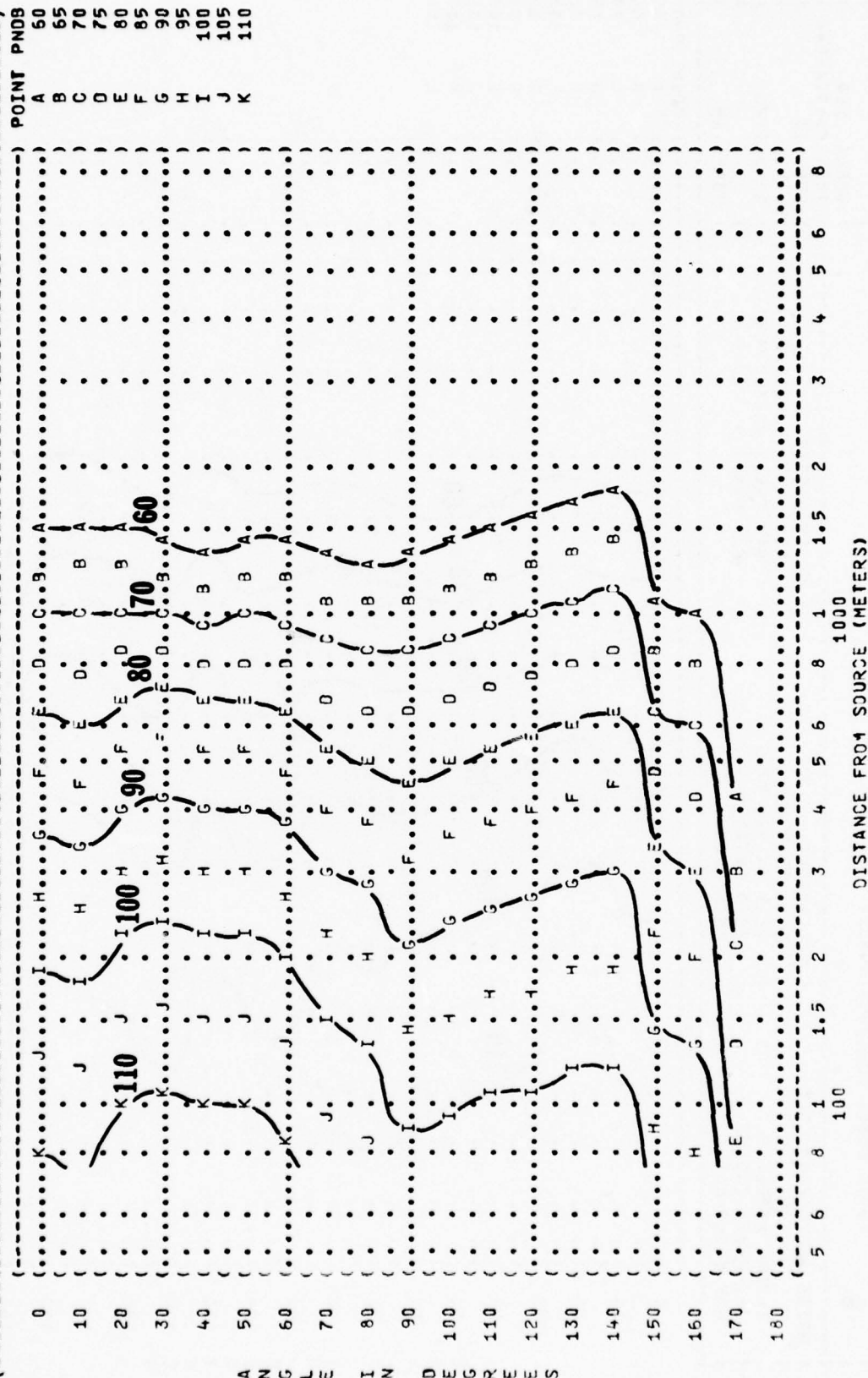


FIGURE: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)  
 8  
 IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-002-048  
 RUN 01  
 25 AUG 76  
 PAGE 16  
 NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY:  
 ( IDLE POWER ) TEMP = 15 C  
 ( 30.0 IN HG, PT-5 ) BAR PRESS = .760 M HG  
 ( BOTH ENGINES ) REL HUMID = 70 %  
 ( FREE FLOW )



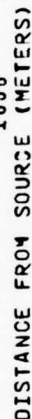
A N G L E I N D E G R E E S

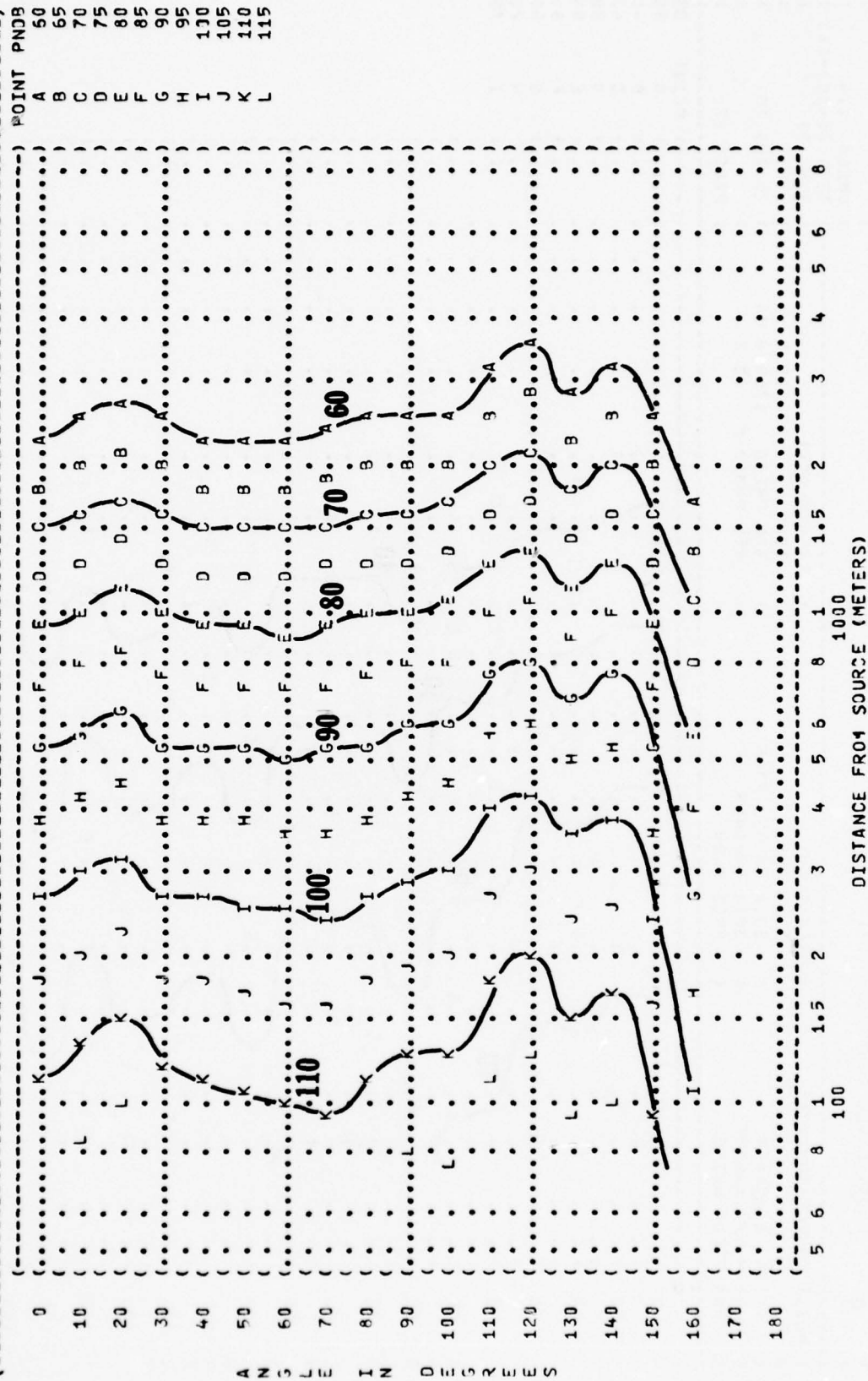
FIGURE:	PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)	IDENTIFICATION:
8	EQUAL LEVEL CONTOURS (PNDB)	
		OMEGA 1.4
		TEST 75-002-048
		RUN 02
NOISE SOURCE/SUBJECT:	OPERATION:	METEOROLOGY:
T-39A AIRCRAFT	75% RPM POWER	TEMP = 15 C
J60-P-3/A ENGINE	36.5 IN HG, PT-5	BAR PRESS = .760 M HG
FAR FIELD NOISE	BOTH ENGINES	REL HUMID = 70 %
	FREE FLOW	
		PAGE 16



420 JW HZ DWG YWWS

POINT	PND8
A	50
B	55
C	70
D	75
E	80
F	85
G	90
H	95
I	100
J	105
K	110
L	115







IDENTIFICATION: )  
)

1.4

METEOROLGY:

RUN 02

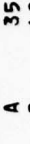
TEMP = 15 C

BAR PRESS = .760 M HG

REL HUMID = 70 %

**PAGE 17**

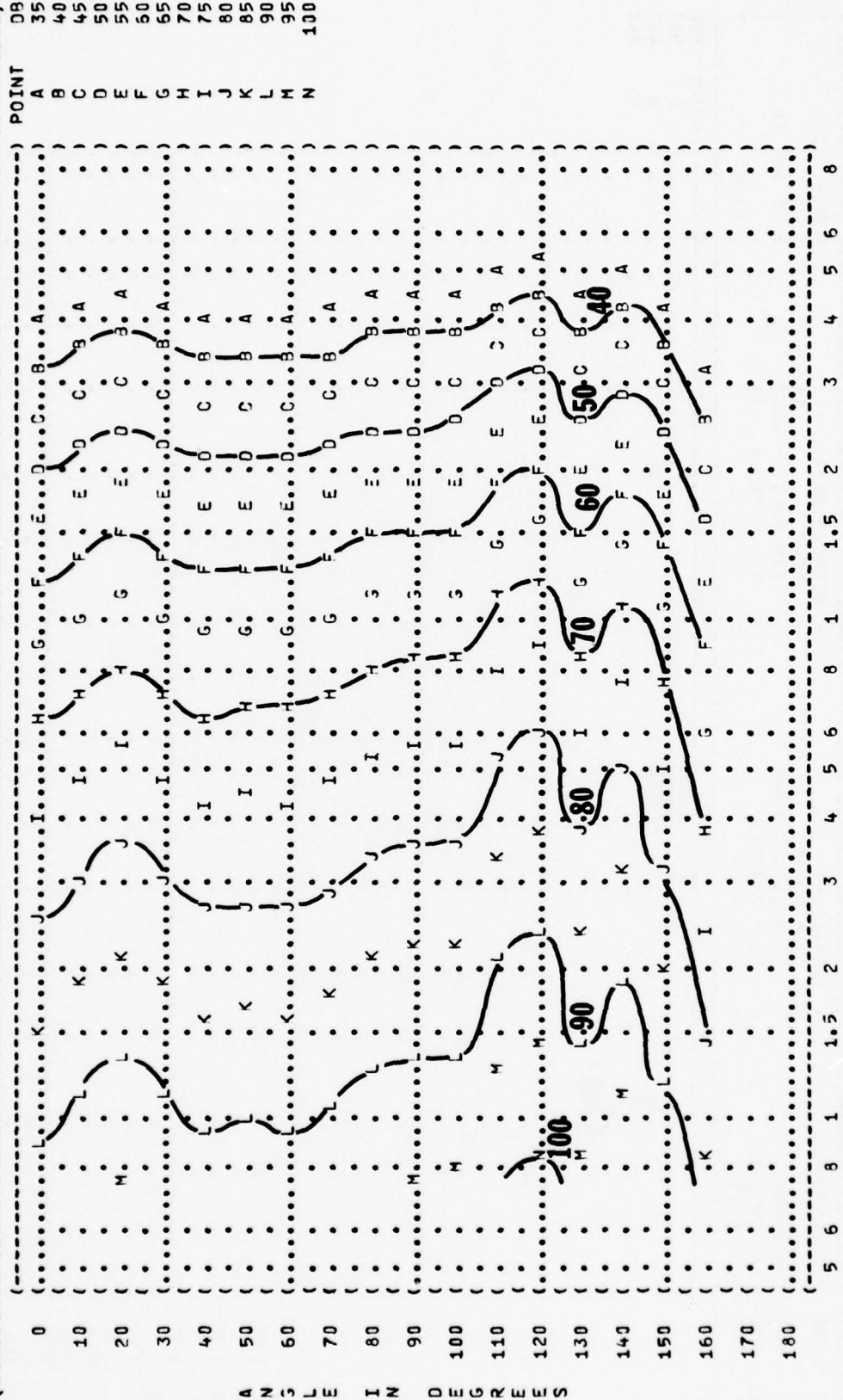
-----) POINT DB



420 LE HZ DEUGHWWS

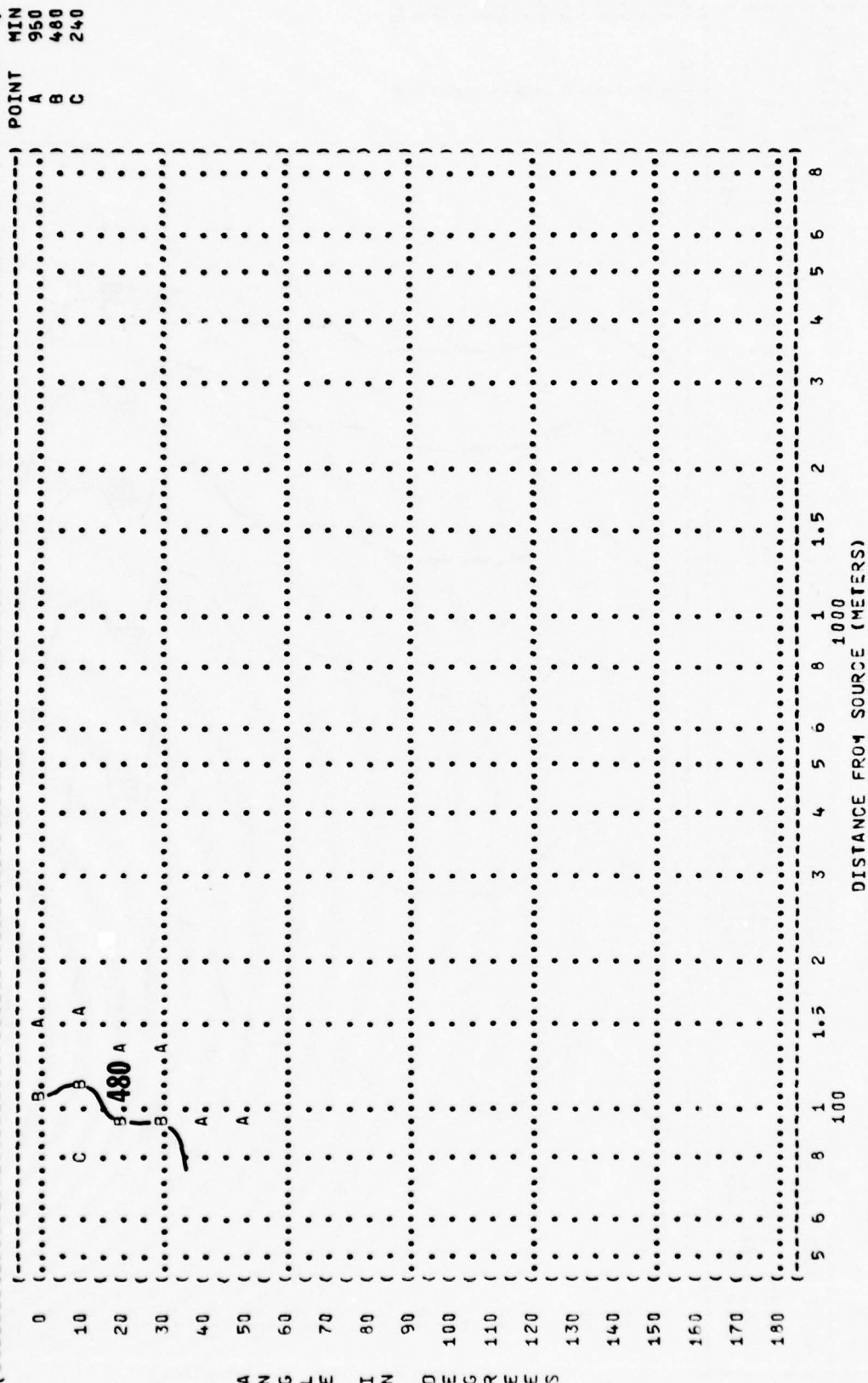


( ) FIGURE: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)  
 ( ) IDENTIFICATION:  
 ( ) OMEGA 1.4  
 ( ) TEST 75-002-048  
 ( ) RUN 34  
 ( ) NOISE SOURCE/SUBJECT: ( ) OPERATION:  
 ( ) ( ) MAXIMUM POWER  
 ( ) T-39A AIRCRAFT ( ) 56.5 IN HG, PT-5  
 ( ) J60-P-3/A ENGINE ( ) BOTH ENGINES  
 ( ) FAR FIELD NOISE ( ) FREE FLOW  
 ( ) METEOROLOGY:  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( ) PAGE 17



DISTANCE FROM SOURCE (METERS)

( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( ) EQUAL TIME CONTOURS (MINUTES) )  
 ( **10** NO PROTECTION ) OMEGA 1.4  
 ( ) TEST 75-002-048 )  
 ( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )  
 ( ) OPERATION: )  
 ( ) IDLE POWER ) TEMP = 15 C  
 ( T-39A AIRCRAFT ) 30.0 IN HG, PT-5 ) BAR PRESS = .760 M HG  
 ( J60-P-3/A ENGINE ) 90TH ENGINES ) REL HUMID = 70 %  
 ( FAR FIELD NOISE ) FREE FLOW ) PAGE 7



PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY  
AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 75 METERS  
FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)  
UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

MINIMUM QPL EAR MUFFS  
AMERICAN OPTICAL 1700 EAR MUFFS  
V-51R EAR PLUGS  
COMFIT TRIPLE FLANGE EAR PLUGS  
H-133 GROUND COMMUNICATION UNIT

MINIMUM QPL EAR MUFFS  
AMERICAN OPTICAL 1700 EAR MUFFS  
V-51R EAR PLUGS  
COMPLY TRIPLE FLANGE EAR PUGS  
H-133 GROUND COMMUNICATION UNIT

[illegible]

[illegible]

	0<	10<	20<	30<	40<	50<	60<	70<	80<	90<	100<	110<	120<	130<	140<	150<	160<	170<	180
PERSONNEL MAY BE EXPOSED UP TO 360 MINUTES PER DAY																			
AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 75 METERS																			
FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)																			
UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:																			
MINIMUM QPL EAR MUFFS																			
AMERICAN OPTICAL 1700 EAR MUFFS																			
V-51R EAR PLUGS																			
COMFIT TRIPLE FLANGE EAR PLUGS																			
H-133 GROUND COMMUNICATION UNIT																			

5 6 8 1 1.5 2 3 4 5 6 8 1 1.5 2 3 4 5 6 8

100 1000

DISTANCE FROM SOURCE (METERS)

MINIMJM QPL EAR MUFFS  
AMERICAN OPTICAL 1700 EAR MUFFS  
V-51R EAR PLUGS  
COMFIT TRIPLE FLANGE EAR PLUGS  
H-133 GROUND COMMUNICATION UNIT

5 6 8 1 1.5 2 3 4 5 6 8 1000  
DISTANCE FROM SOURCE (METERS)

FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

IDENTIFICATION:

10

NO PROTECTION

NOISE SOURCE/SUBJECT:

OPERATION:

85% RPM POWER

42.5 IN HG, PT-5

BOTH ENGINES

FREE FLOW

METEOROLOGY:

TEMP = 15 C

BAR PRESS = .760 M HG

REL HUMID = 70 %

T-39A AIRCRAFT

J60-P-3/A ENGINE

FAR FIELD NOISE

OMEGA 1.4

TEST 75-002-048

RUN 03

25 AUG 76

PAGE 7

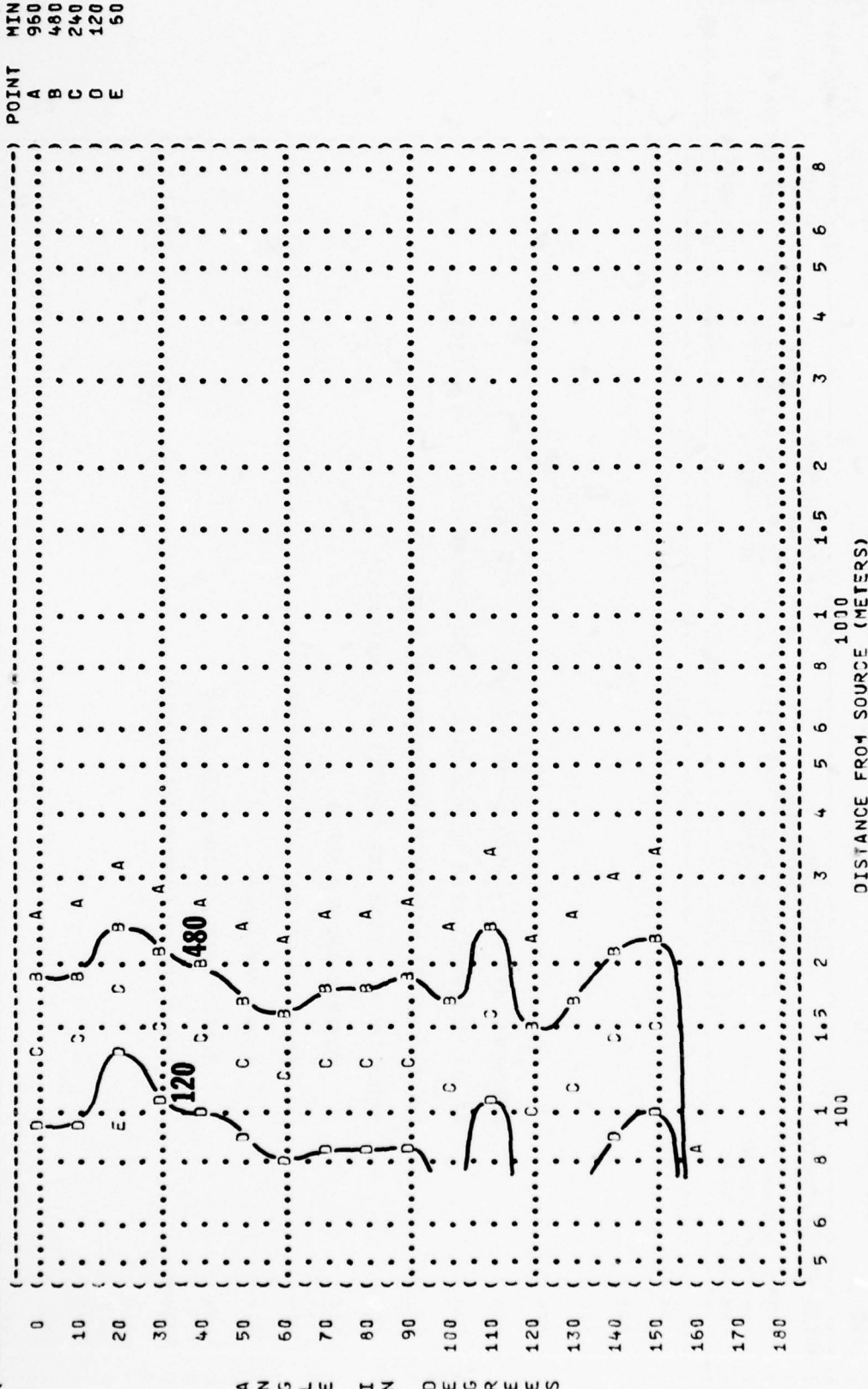


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

IDENTIFICATION:

OMEGA 1.4

TEST 75-002-048

RUN 03

25 AUG 76

PAGE 8

NOISE SOURCE/SUBJECT:

OPERATION:

85% RPM POWER

TEMP = 15 C

42.5 IN HG, PT-5

BAR PRESS = .760 M HG

BOTH ENGINES

REL HUMID = 70 %

FREE FLOW

T-39A AIRCRAFT

J60-P-3/A ENGINE

FAR FIELD NOISE

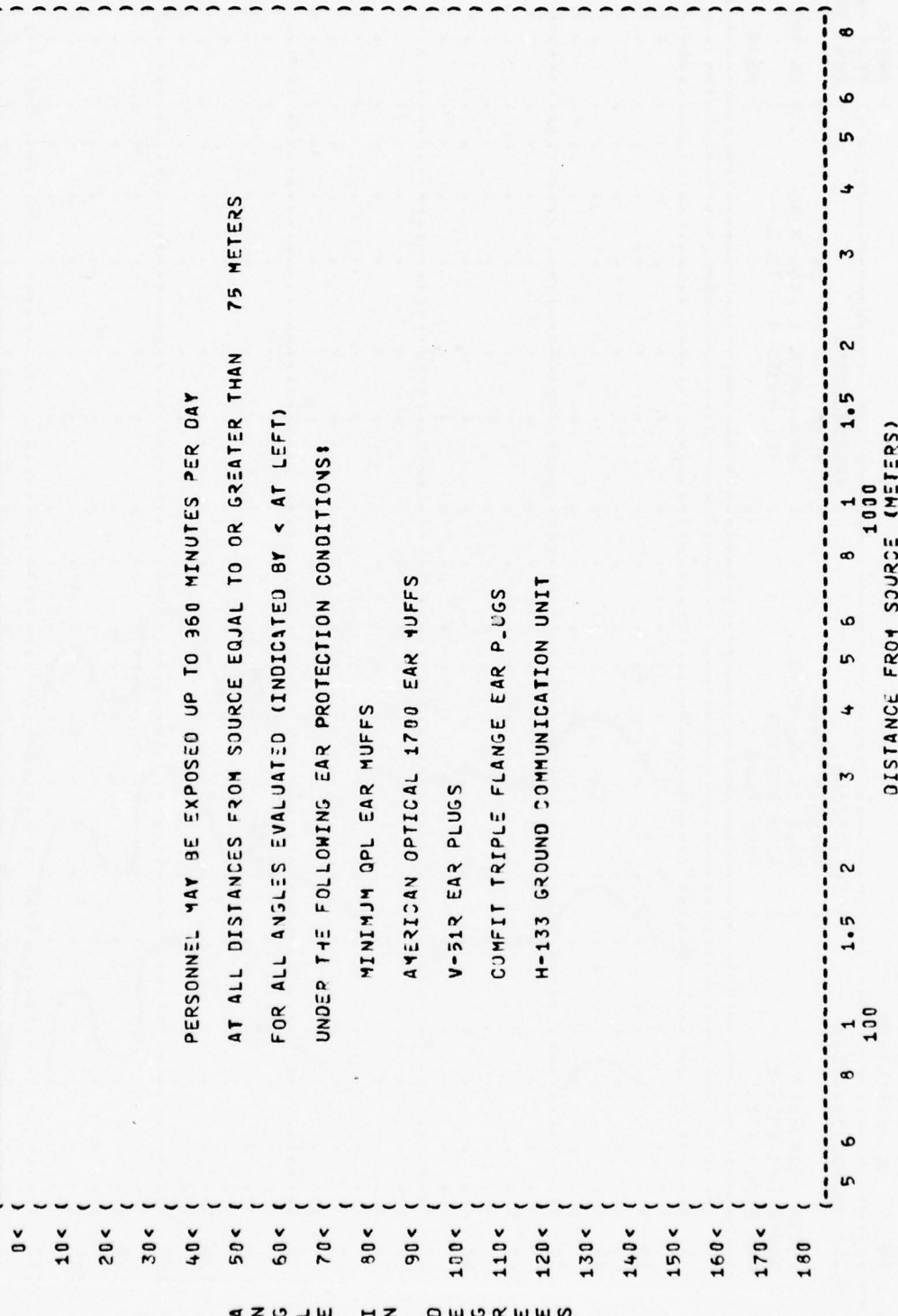
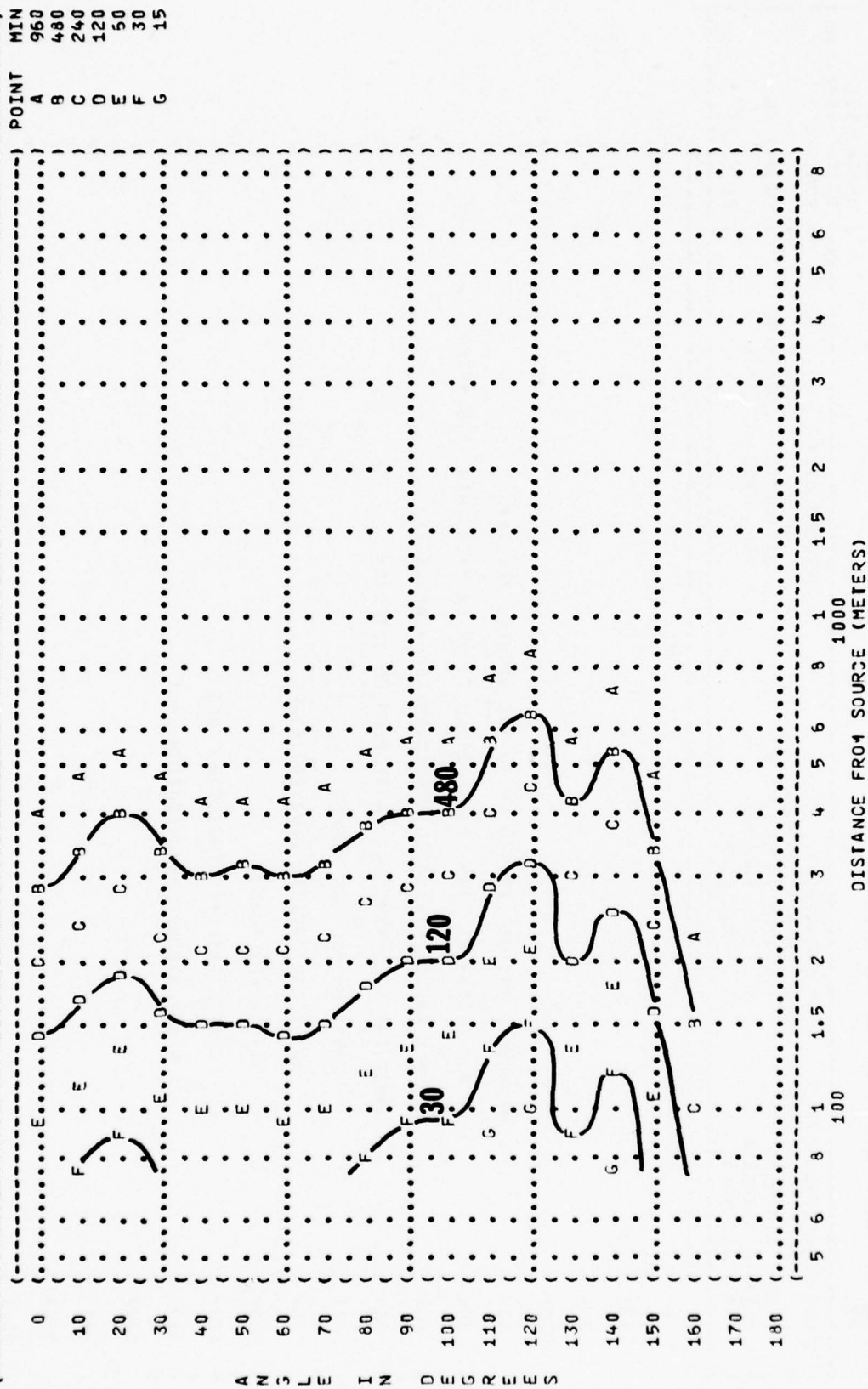


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) IDENTIFICATION: )  
 EQUAL TIME CONTOURS (MINUTES) )  
 10 NO PROTECTION )  
 NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: )  
 ( MAXIMUM POWER ) TEMP = 15 C )  
 ( 56.5 IN HG, PT-5 ) BAR PRESS = .760 M HG )  
 ( BOTH ENGINES ) REL HUMID = 70 % )  
 ( FREE FLOW ) )  
 T-39A AIRCRAFT )  
 J60-P-3/A ENGINE ) 25 AUG 76 )  
 FAR FIELD NOISE ) PAGE 7 )











( FIGURE: SOUND PRESSURE LEVEL (SPL) ) IDENTIFICATION: )  
 ( EQUAL LEVEL CONTOURS (DB) ) )  
 ( 11 31.5 HZ OCTAVE BAND ) OMEGA 1.4 )  
 ( NOISE SOURCE/SUBJECT: ) TEST 75-002-048 )  
 ( OPERATION: ) RUN 01 )  
 ( IDLE POWER ) )  
 ( 30.0 IN HG, PT-5 ) TEMP = 15 C )  
 ( BOTH ENGINES ) BAR PRESS = .760 M HG )  
 ( FREE FLOW ) REL HUMID = 70 % )  
 ( T-39A AIRCRAFT ) 25 AUG 76 )  
 ( J60-P-3/A ENGINE ) )  
 ( FAR FIELD NOISE ) PAGE 14 )

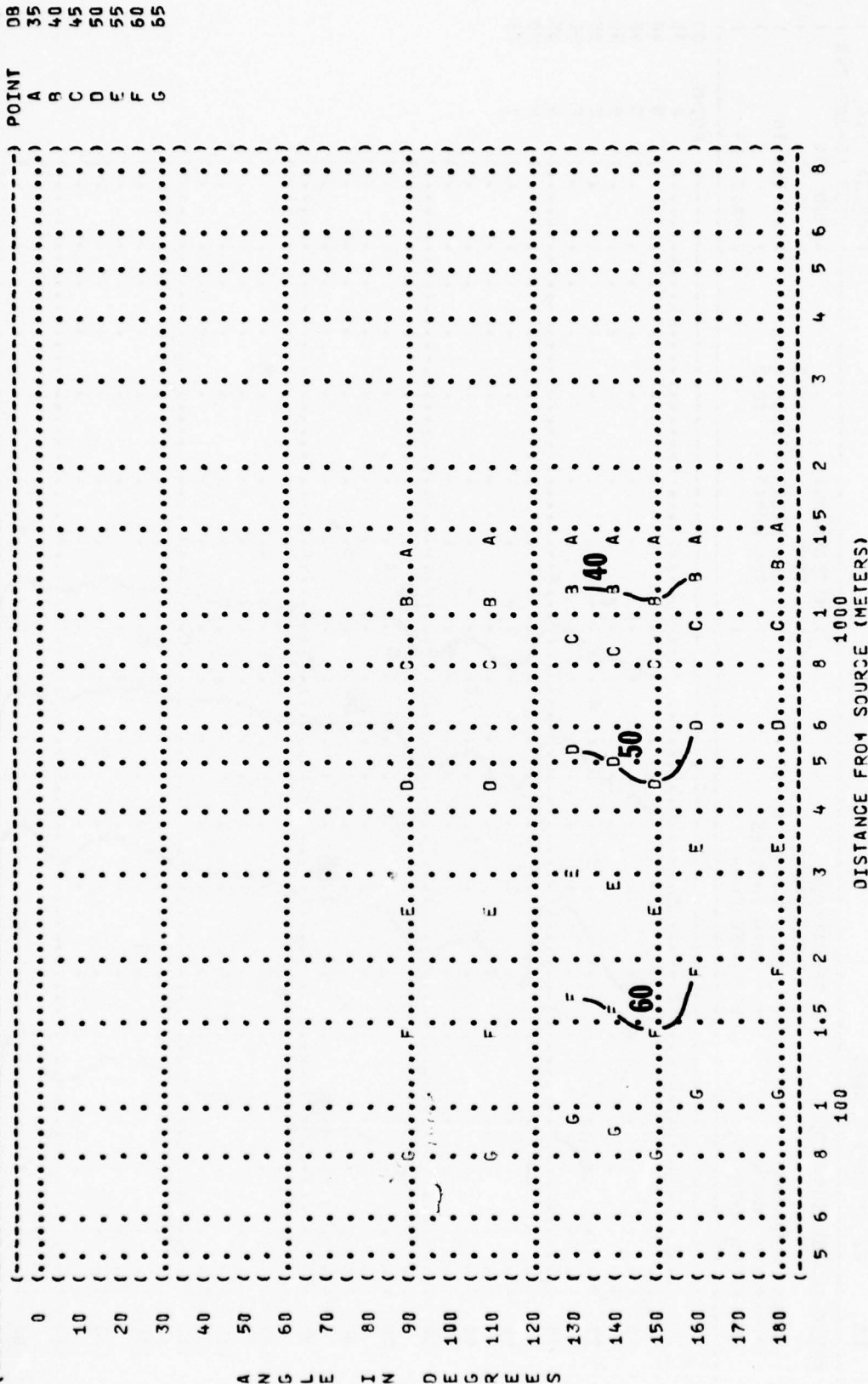


FIGURE: SOUND PRESSURE LEVEL (SPL)  
 EQUAL LEVEL CONTOURS (DB)  
 63 HZ OCTAVE BAND

11

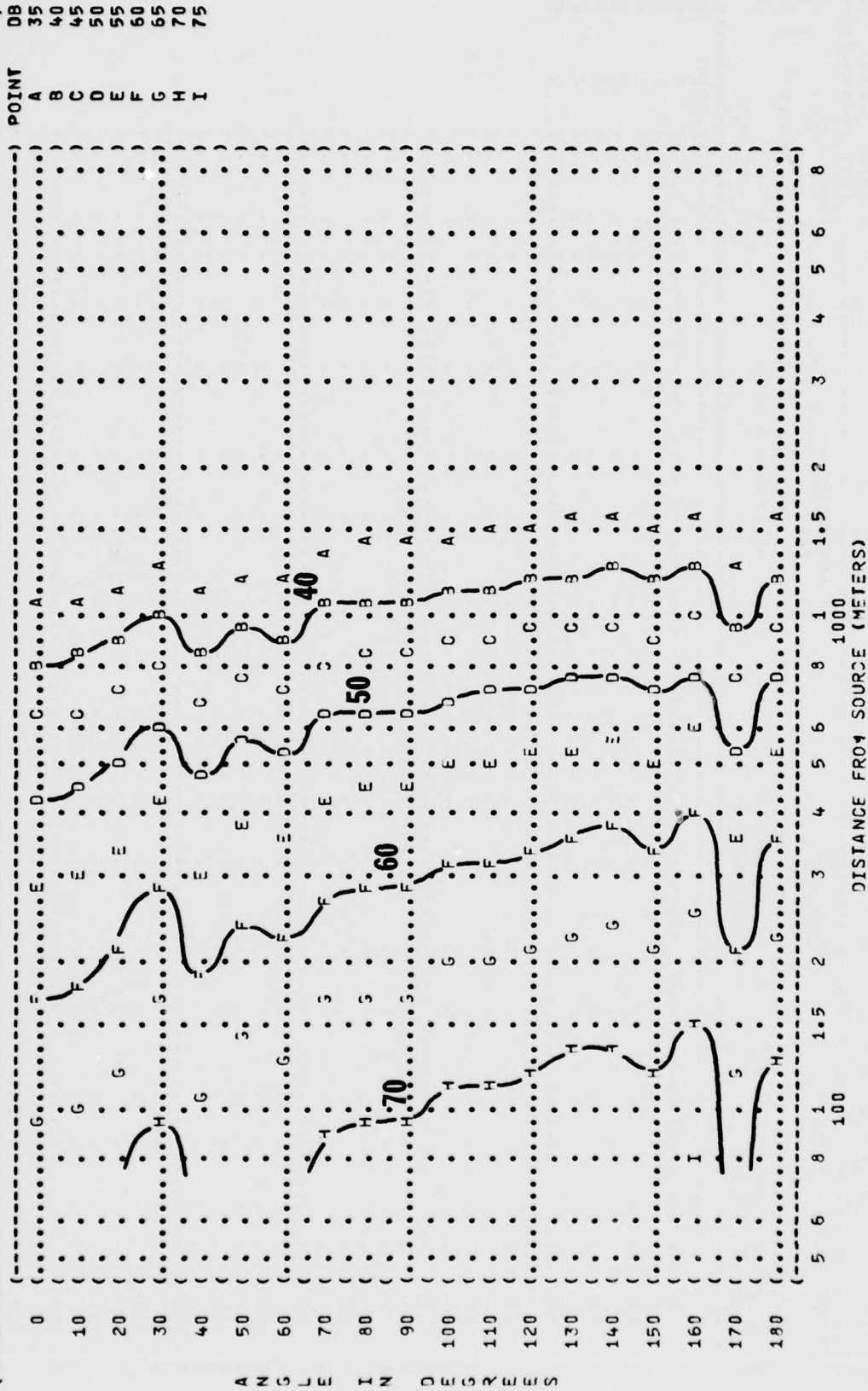
IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-002-048  
 RUN 01

NOISE SOURCE/SUBJECT:  
 OPERATION:  
 ( IDLE POWER  
 ( 30.0 IN HG, PT-5  
 ( BOTH ENGINES  
 ( FREE FLOW

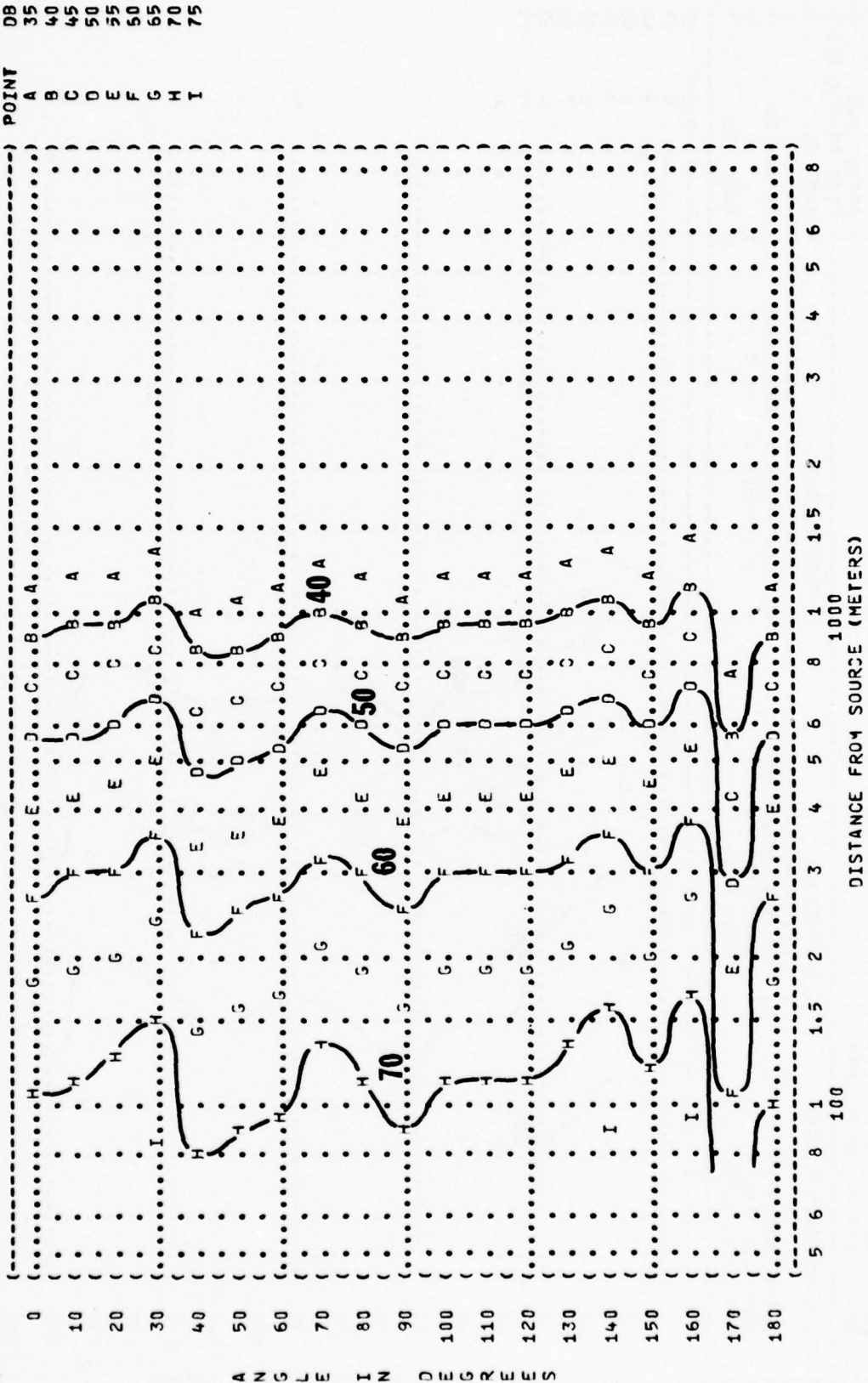
METEOROLOGY:  
 TEMP = 15 C  
 BAR PRESS = .760 M HG  
 REL HUMID = 70 %

T-39A AIRCRAFT  
 J60-P-3/A ENGINE  
 FAR FIELD NOISE

PAGE 19

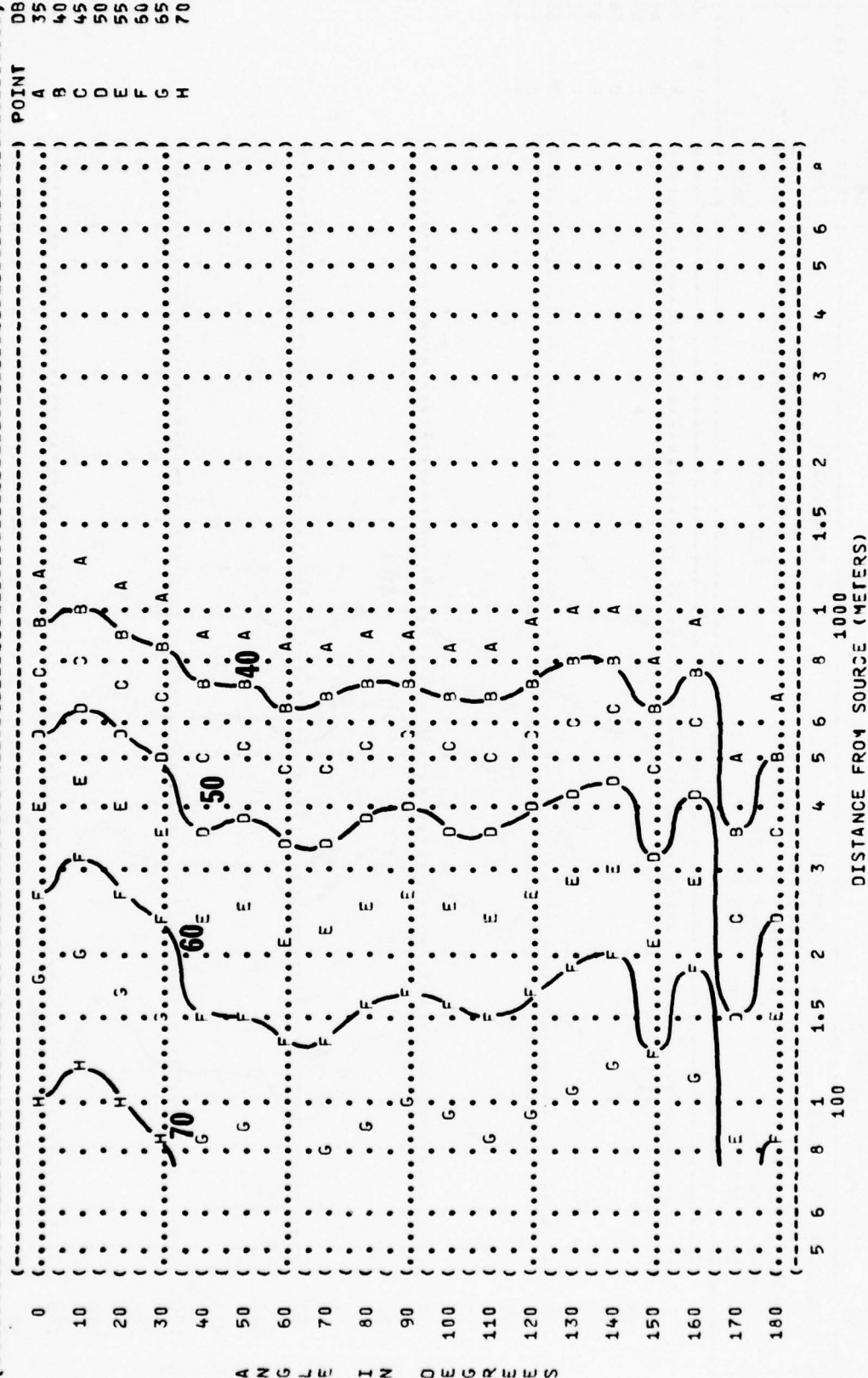


( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 125 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( ( OPERATION:  
 ( ( IDLE POWER  
 ( ( 30.0 IN HG, PT-5  
 ( ( BOTH ENGINES  
 ( ( FREE FLOW  
 ( T-39A AIRCRAFT  
 ( J60-P-3/A ENGINE  
 ( FAR FIELD NOISE  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-048  
 ( RUN 01  
 ( 25 AUG 76  
 ( PAGE 20  
 ( POINT DB  
 ( A 35  
 ( B 40  
 ( C 45  
 ( D 50  
 ( E 55  
 ( F 60  
 ( G 65  
 ( H 70  
 ( I 75

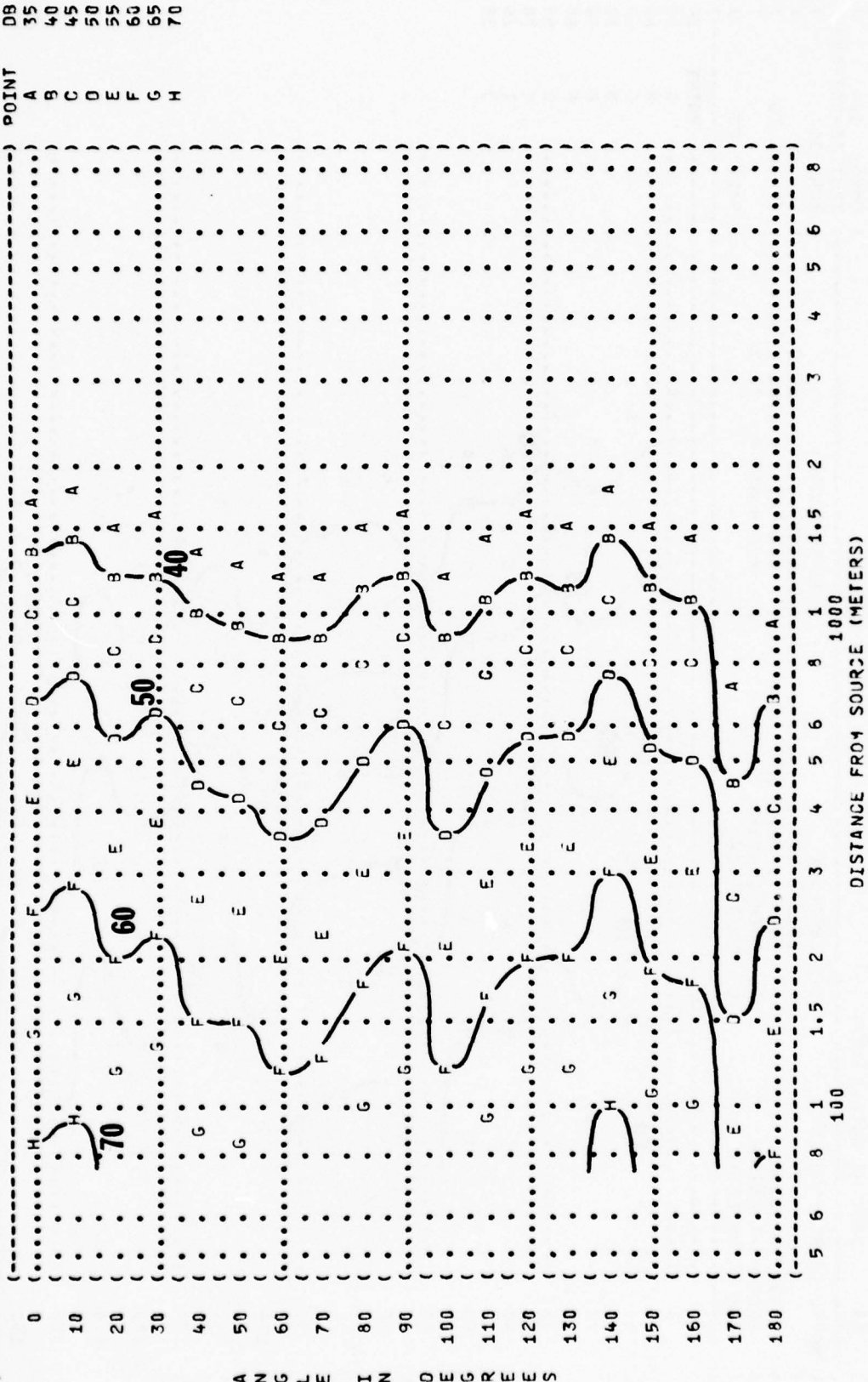


DISTANCE FROM SOURCE (METERS)

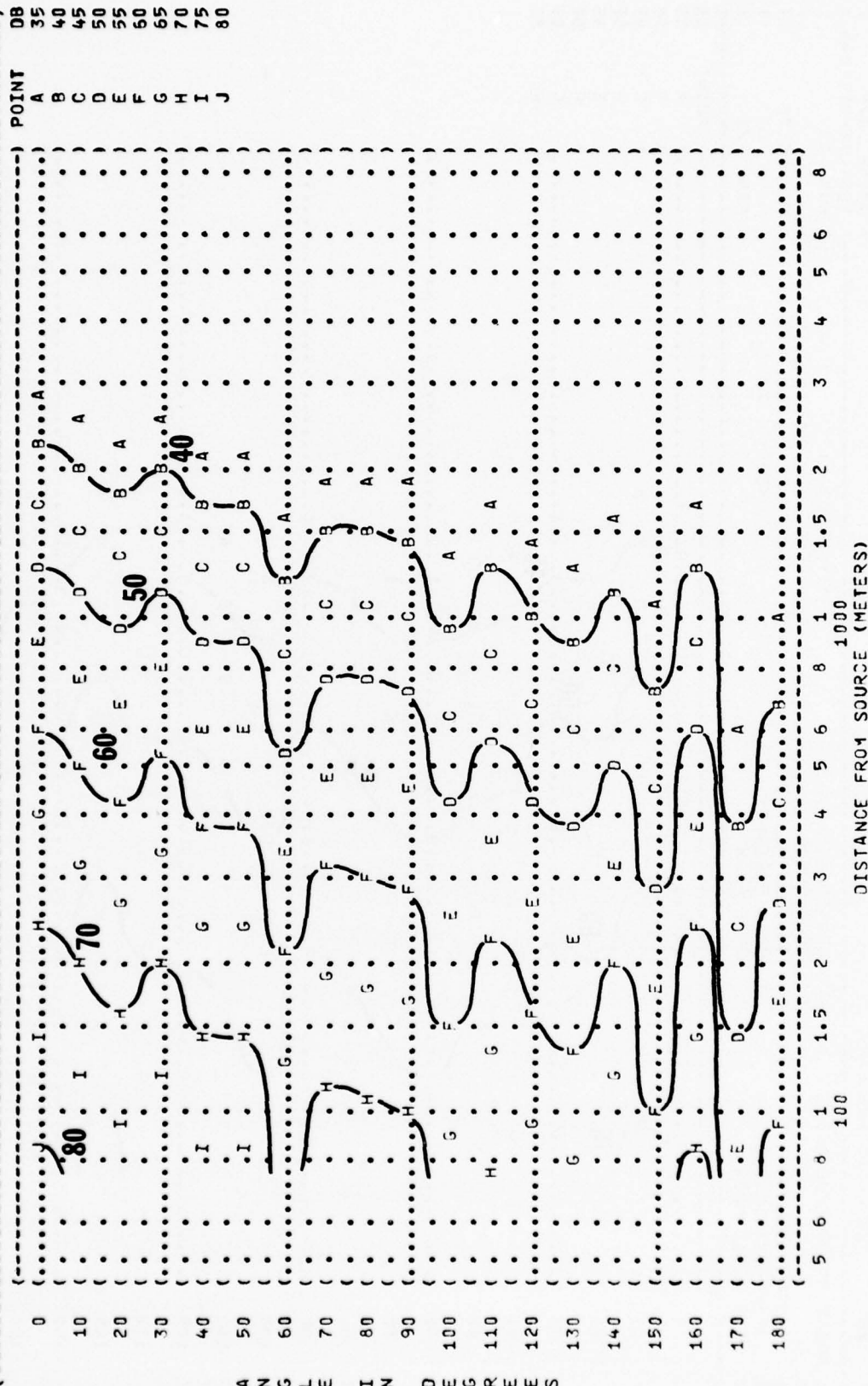
( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 250 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( ( IDLE POWER  
 ( ( 30.0 IN HG, PT-5  
 ( T-39A AIRCRAFT  
 ( J60-P-3/A ENGINE  
 ( FAR FIELD NOISE  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-048  
 ( RUN 31  
 ( 25 AUG 76  
 ( PAGE 21



( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( **11** 500 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( T-39A AIRCRAFT ( IDLE POWER  
 ( J60-P-3/A ENGINE ( 30.0 IN HG, PT-5  
 ( FAR FIELD NOISE ( BOTH ENGINES  
 ( ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-048  
 ( RUN 01  
 ( 25 AUG 76  
 ( PAGE 22



( FIGURE: SOUND PRESSURE LEVEL {SPL}  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 1000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( OPERATION:  
 ( IDLE POWER  
 ( 30.0 IN HG, PT-5  
 ( BOTH ENGINES  
 ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( T-39A AIRCRAFT  
 ( J60-P-3/A ENGINE  
 ( FAR FIELD NOISE  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-048  
 ( RUN 01  
 ( 25 AUG 76  
 ( PAGE 23



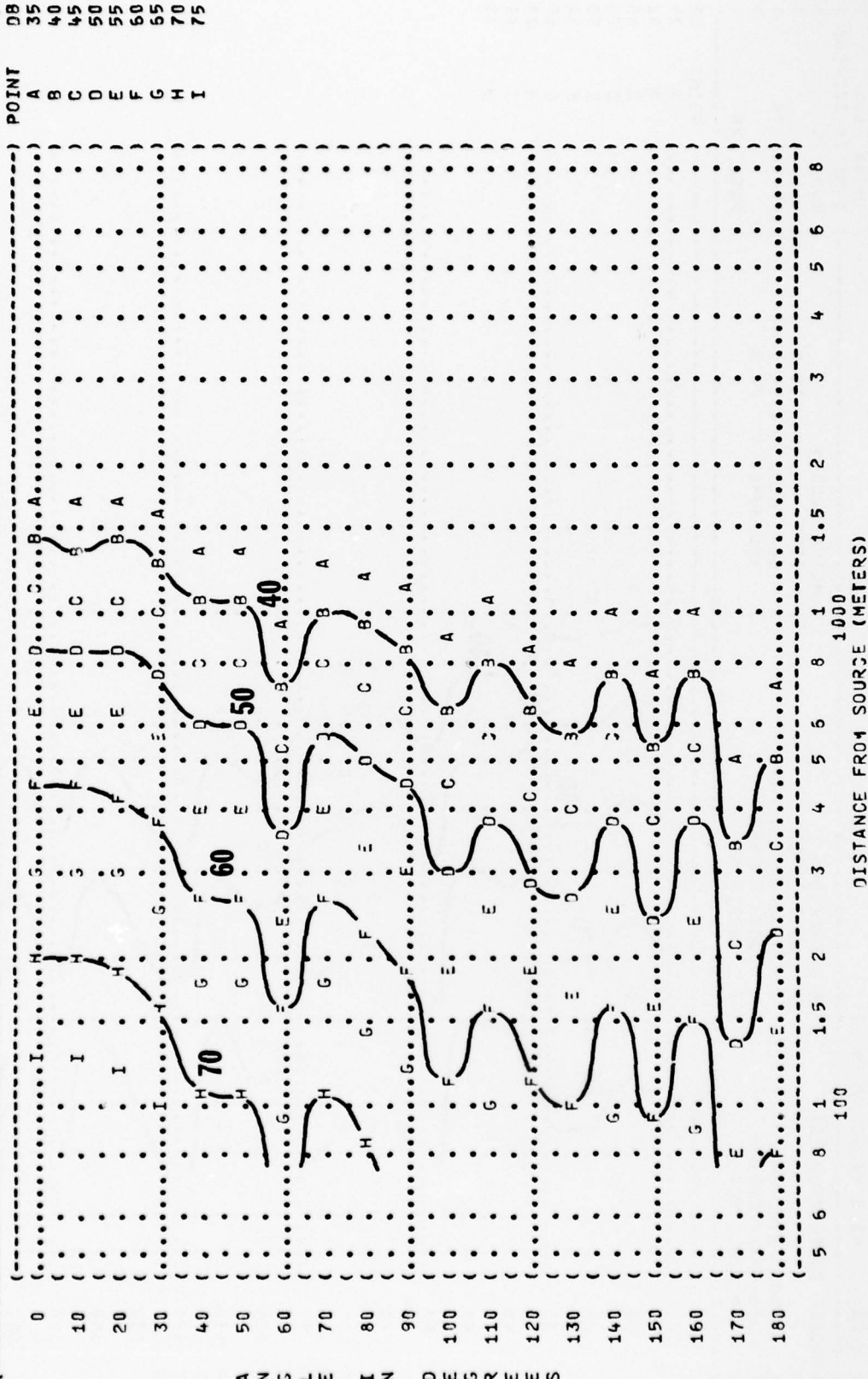
A N G L E I N D E G R E E S

FIGURE: SOUND PRESSURE LEVEL (SPL)  
EQUIL LEVEL CONTOURS (DB)  
11 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: ( ) IDENTIFICATION:  
( ) ( ) OMEGA 1.4  
( ) TEST 75-002-048  
( ) RUN 01

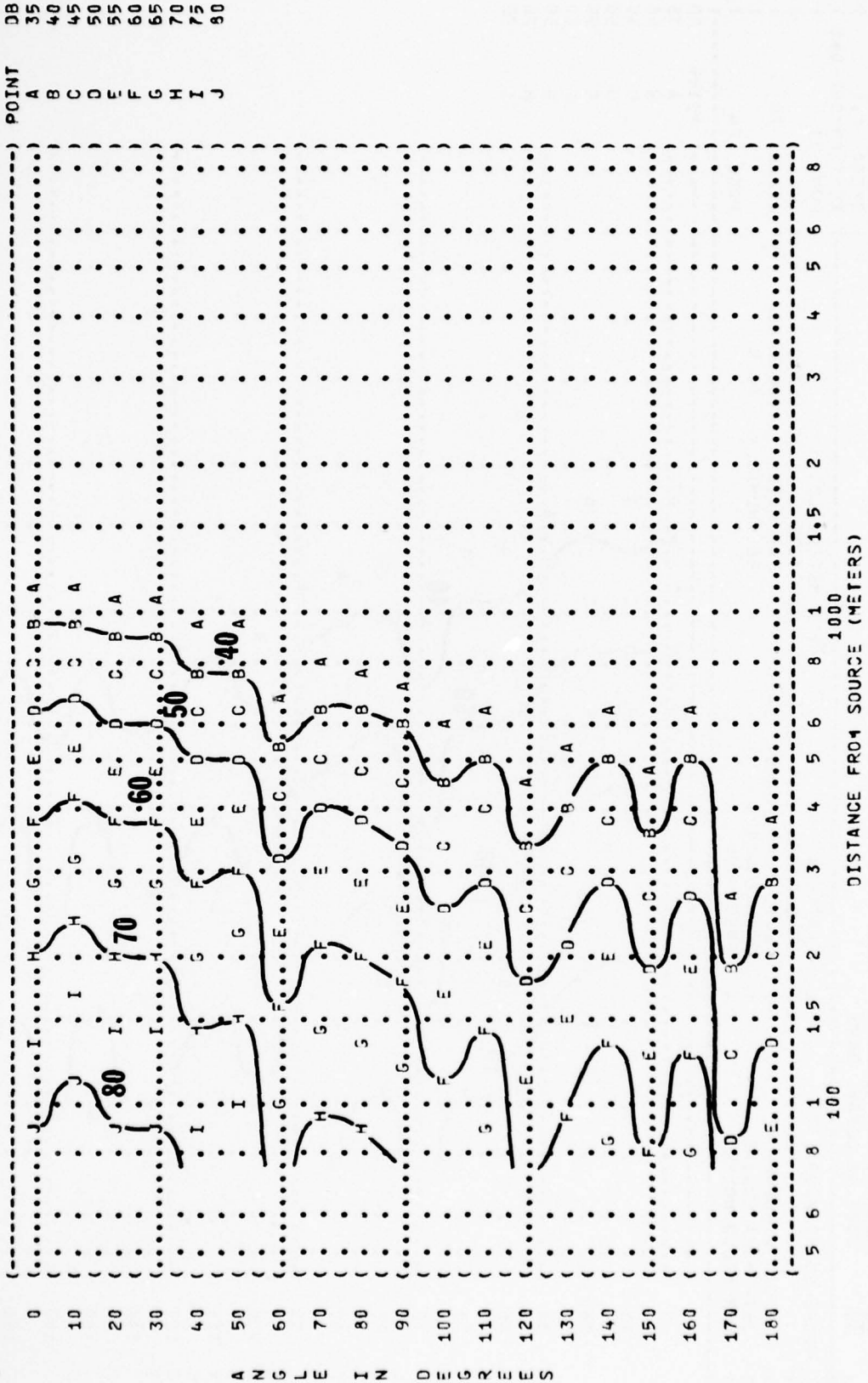
OPERATION: ( ) METEOROLOGY:  
( ) IDLE POWER ( ) TEMP = 15 C  
( ) 30.0 IN HG, PT-5 ( ) BAR PRESS = .760 M HG  
( ) 30TH ENGINES ( ) REL HUMID = 70 %  
( ) FREE FLOW ( ) PAGE 24

T-39A AIRCRAFT  
J60-P-3/A ENGINE  
FAR FIELD NOISE



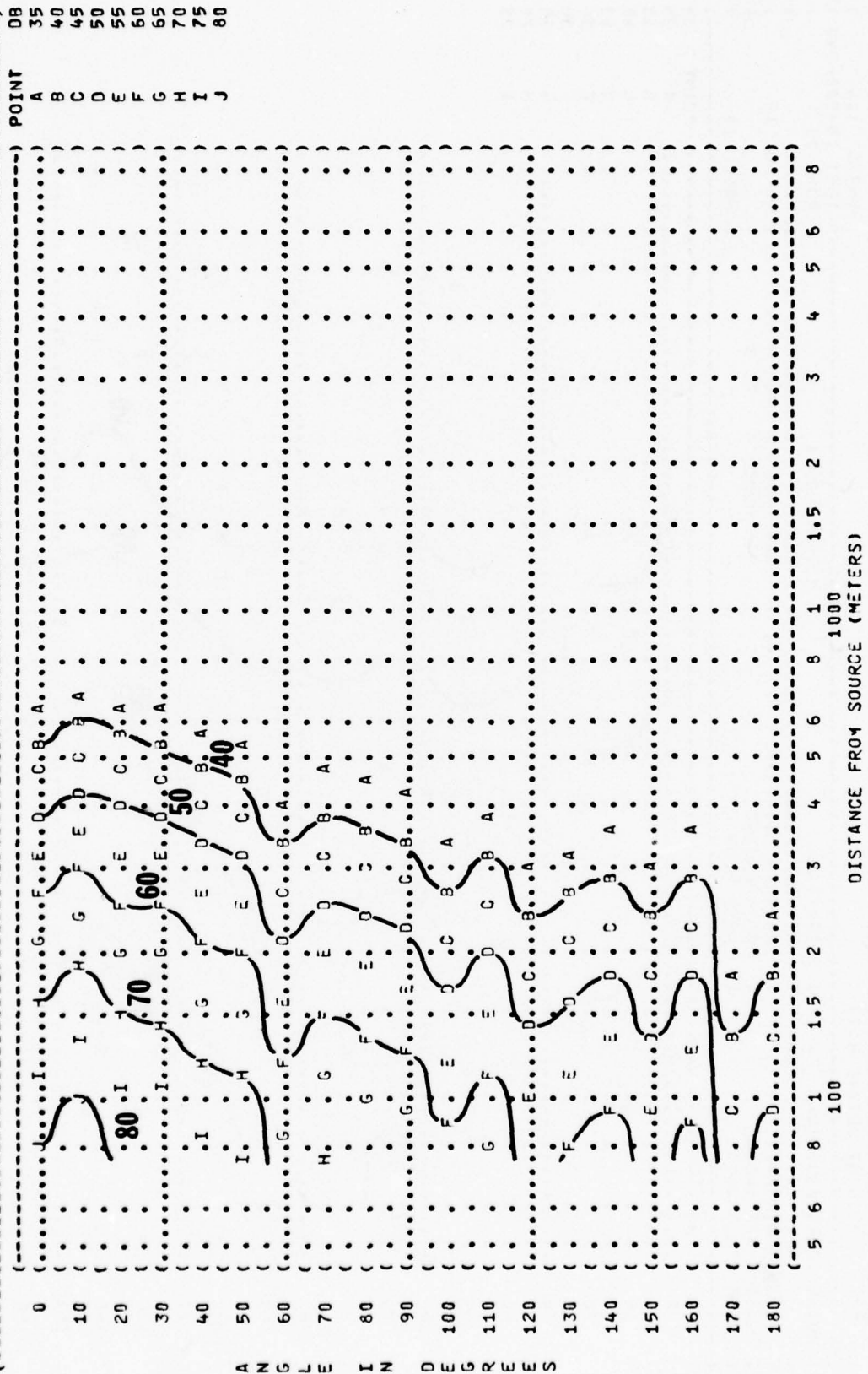
A N G L E I N D E G R E E S

( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( EQUAL LEVEL CONTOURS (DB) )  
 ( 11 4000 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( OPERATION: )  
 ( IDLE POWER )  
 ( 30.0 IN HG, PT-5 )  
 ( BOTH ENGINES )  
 ( FREE FLOW )  
 ( T-39A AIRCRAFT )  
 ( J60-P-37A ENGINE )  
 ( FAR FIELD NOISE )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-048 )  
 ( RUN 01 )  
 ( 25 AUG 76 )  
 ( PAGE 25 )



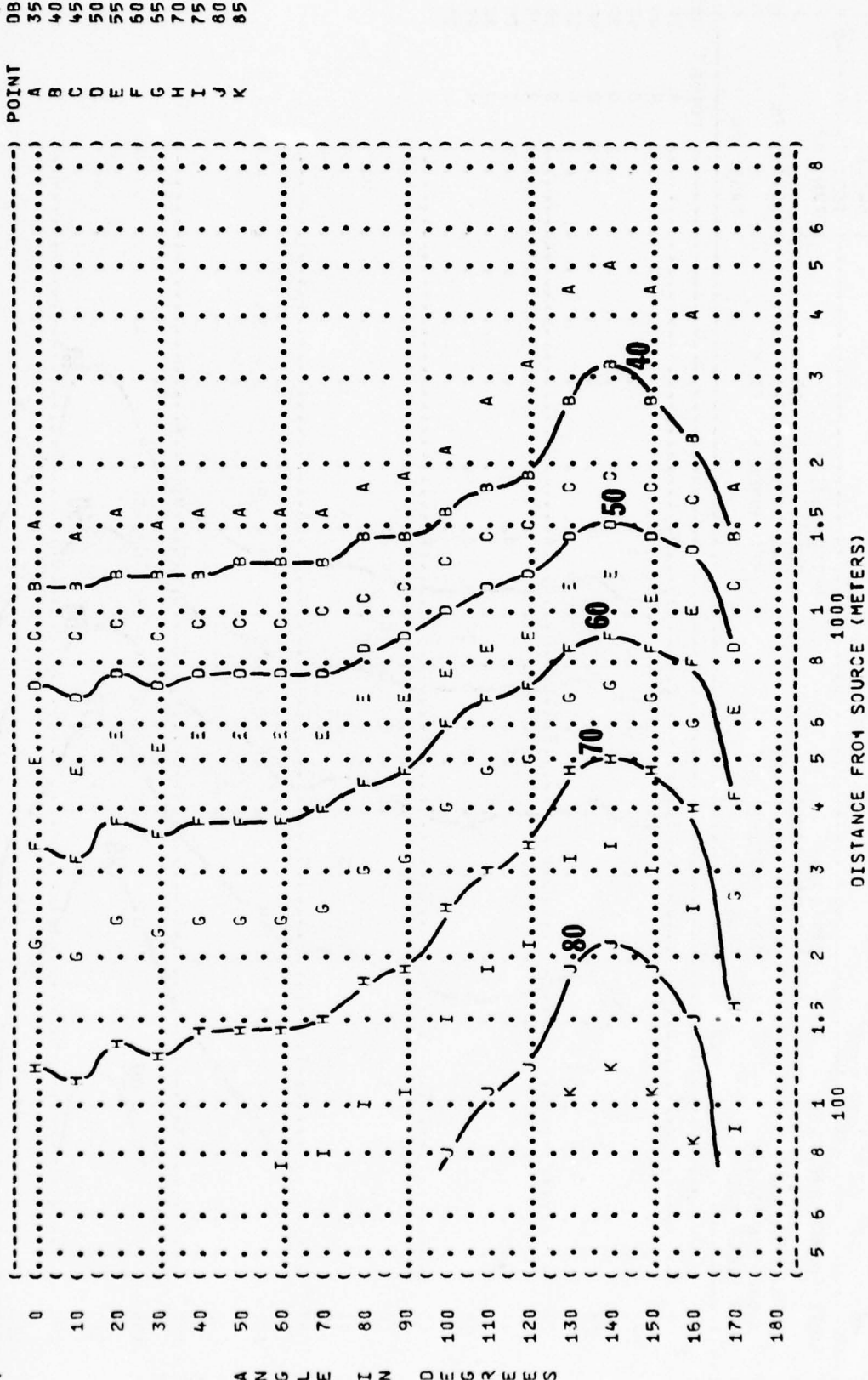
ANGLE IN DEGREES

( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 8000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( T-39A AIRCRAFT ( IDLE POWER  
 ( J60-P-3/A ENGINE ( 30.0 IN HG, PT-5  
 ( FAR FIELD NOISE ( BOTH ENGINES  
 ( ( FREE FLOW  
 ( METEOROLOGY: = 15 C  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( PAGE 26  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-048  
 ( RUN 01  
 ( 25 AUG 76  
 ( )

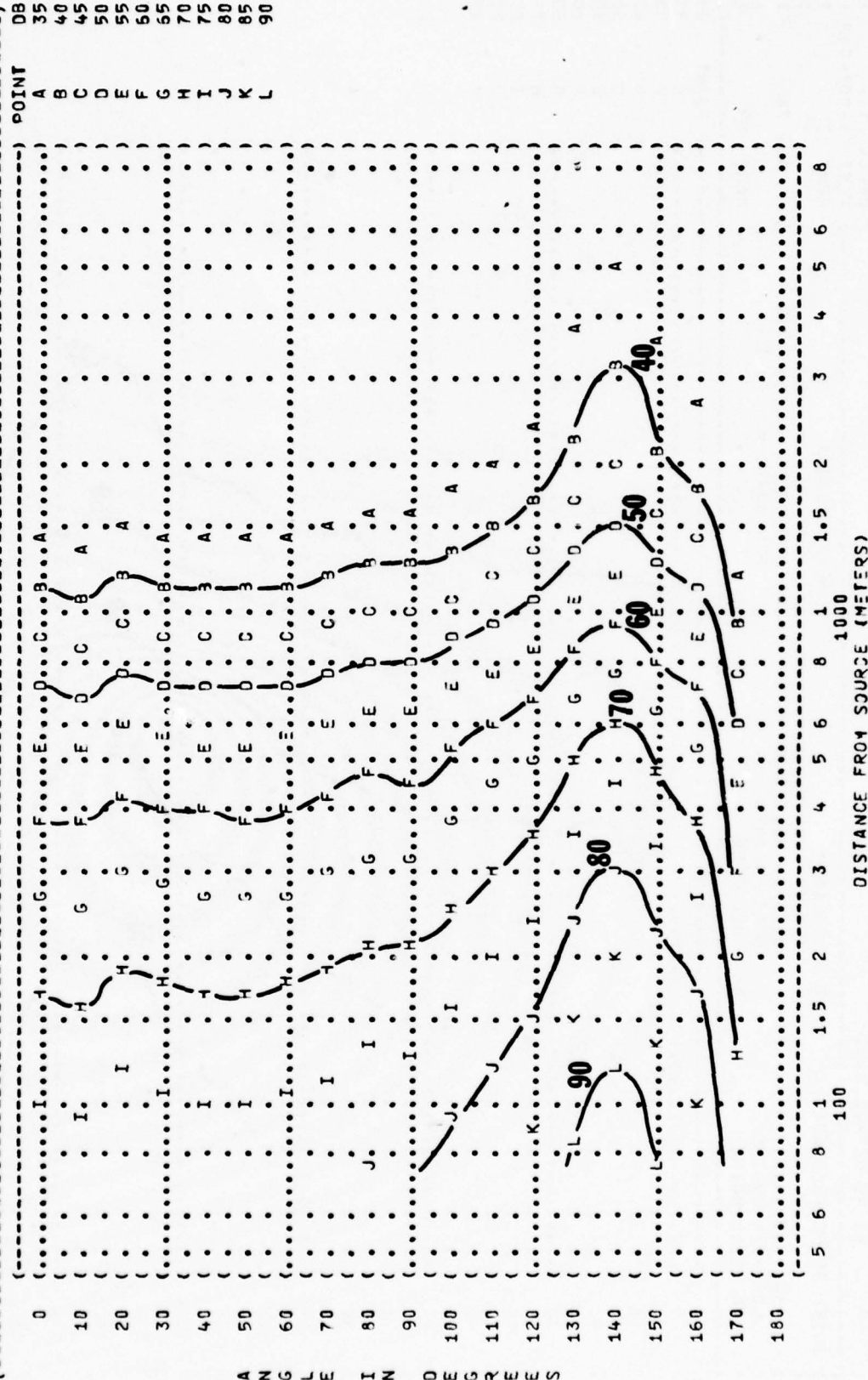




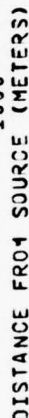
( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 63 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( ( OPERATION:  
 ( ( 75% RPM POWER  
 ( ( 36.5 IN HG, PT-5  
 ( ( BOTH ENGINES  
 ( ( FREE FLOW  
 ( T-39A AIRCRAFT  
 ( J60-P-3/A ENGINE  
 ( FAR FIELD NOISE  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-048  
 ( RUN 02  
 ( 25 AUG 76  
 ( PAGE 19



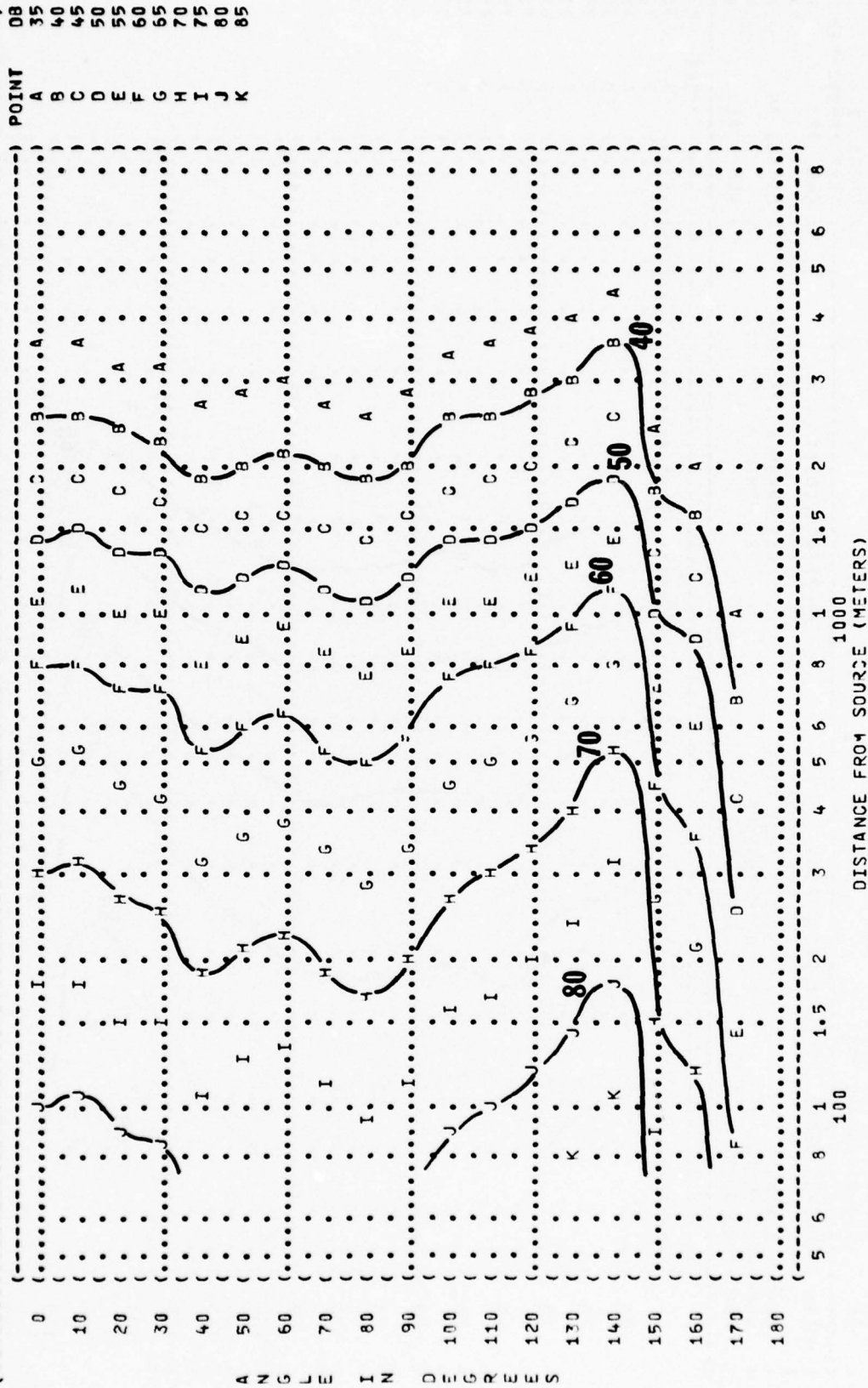
( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 125 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( ( 75% RPM POWER  
 ( T-39A AIRCRAFT ( 36.5 IN HG, PT-5  
 ( J60-P-3/A ENGINE ( BOTH ENGINES  
 ( FAR FIELD NOISE ( FREE FLOW  
 ( METEOROLOGY: ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION: ( OMEGA 1.4  
 ( TEST 75-002-048  
 ( RUN 02  
 ( 25 AUG 76  
 ( PAGE 20



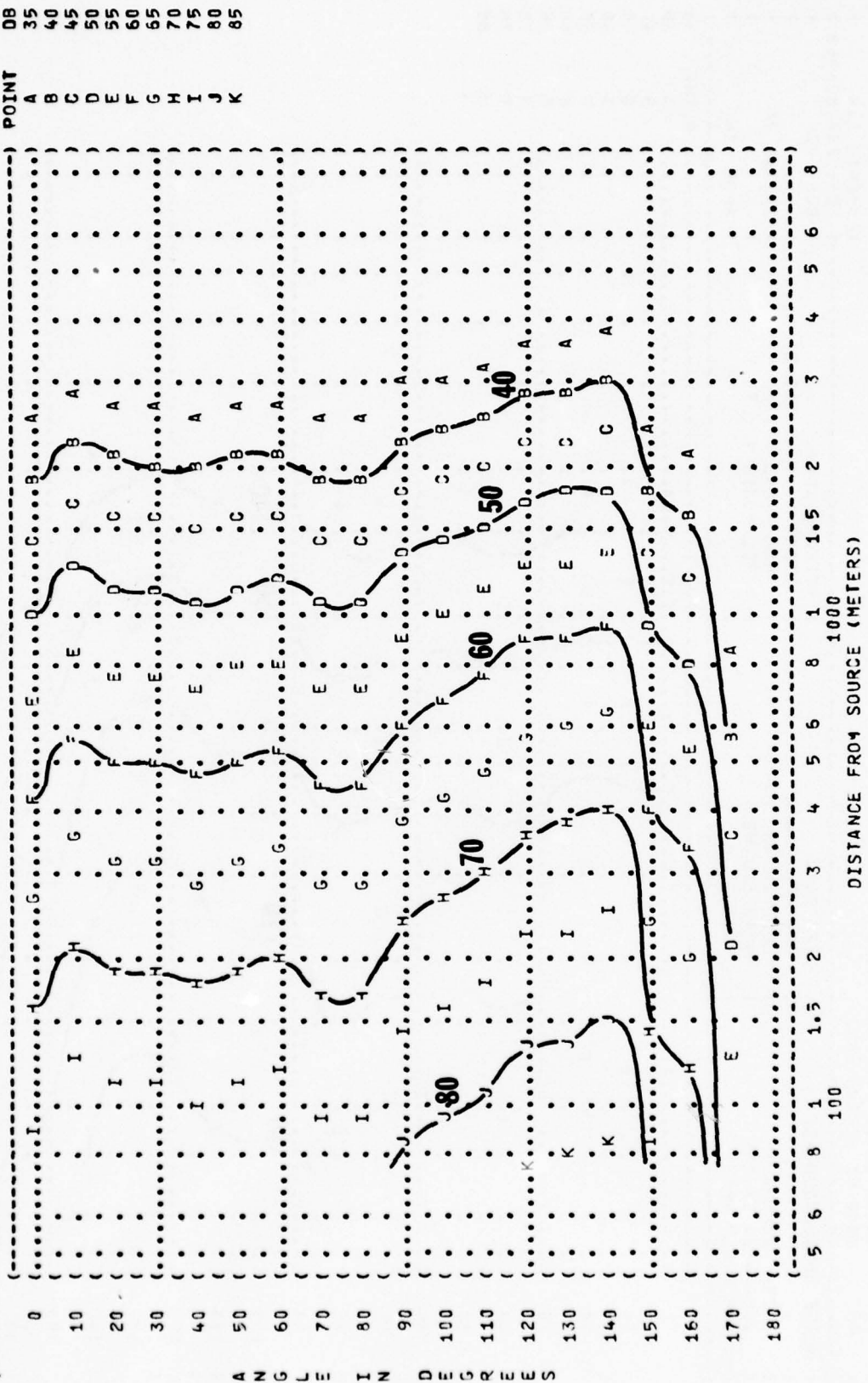
ANGLER IN DISGUISES



( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 500 HZ OCTAVE BAND  
 ( **11**  
 ( NOISE SOURCE/SUBJECT:  
 ( OPERATION:  
 ( 75% RPM POWER  
 ( 36.5 IN HG, PT-5  
 ( BOTH ENGINES  
 ( FREE FLOW  
 ( T-39A AIRCRAFT  
 ( J60-P-3/A ENGINE  
 ( FAR FIELD NOISE  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-048  
 ( RUN 02  
 ( 25 AUG 76  
 ( PAGE 22

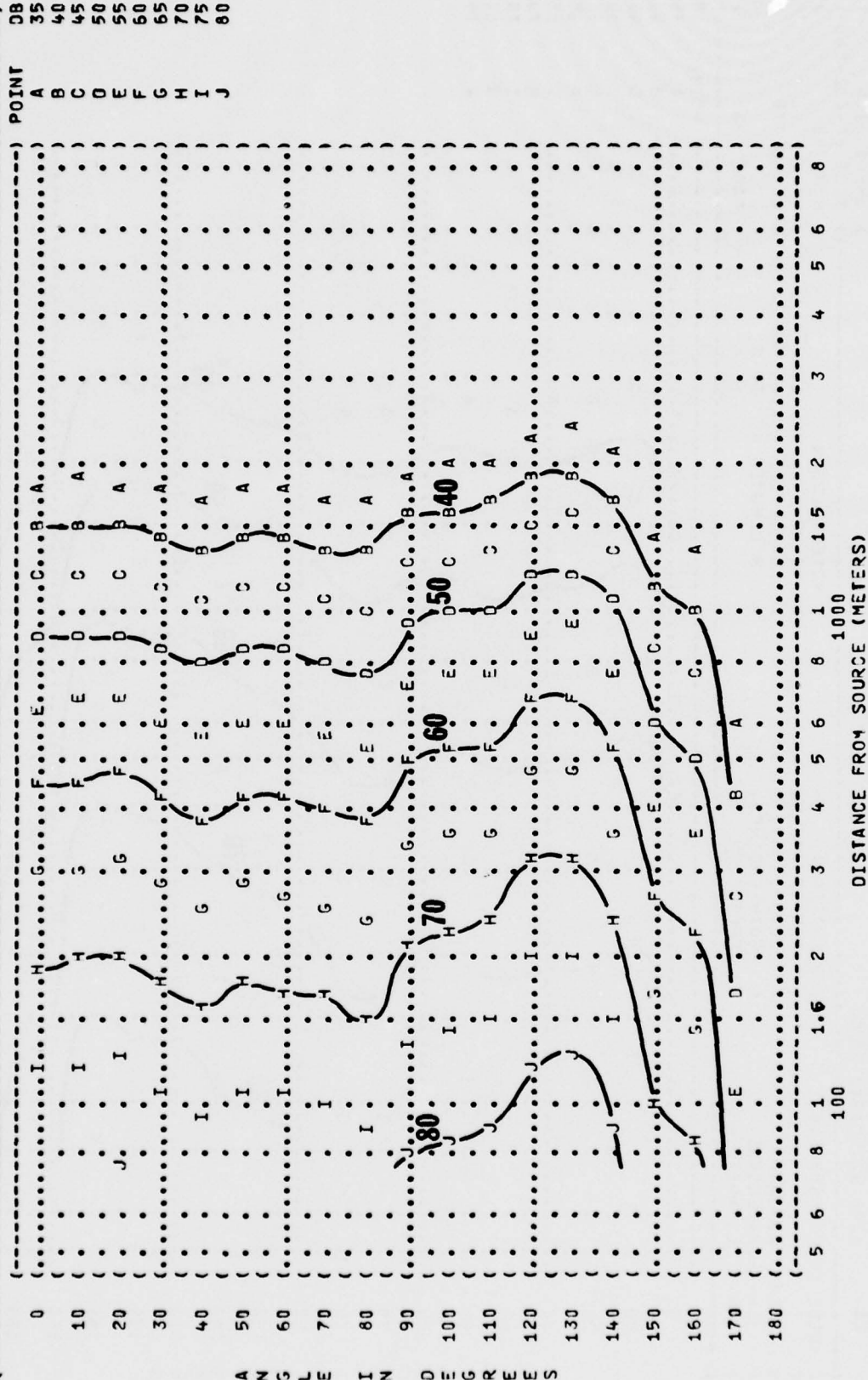


( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 1000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( ( OPERATION:  
 ( ( 75% RPM POWER  
 ( ( 36.5 IN HG, PT-5  
 ( ( BOTH ENGINES  
 ( ( FREE FLOW  
 ( T-39A AIRCRAFT  
 ( J60-P-3/A ENGINE  
 ( FAR FIELD NOISE  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( RUN 02  
 ( 25 AUG 76  
 ( PAGE 23  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-048



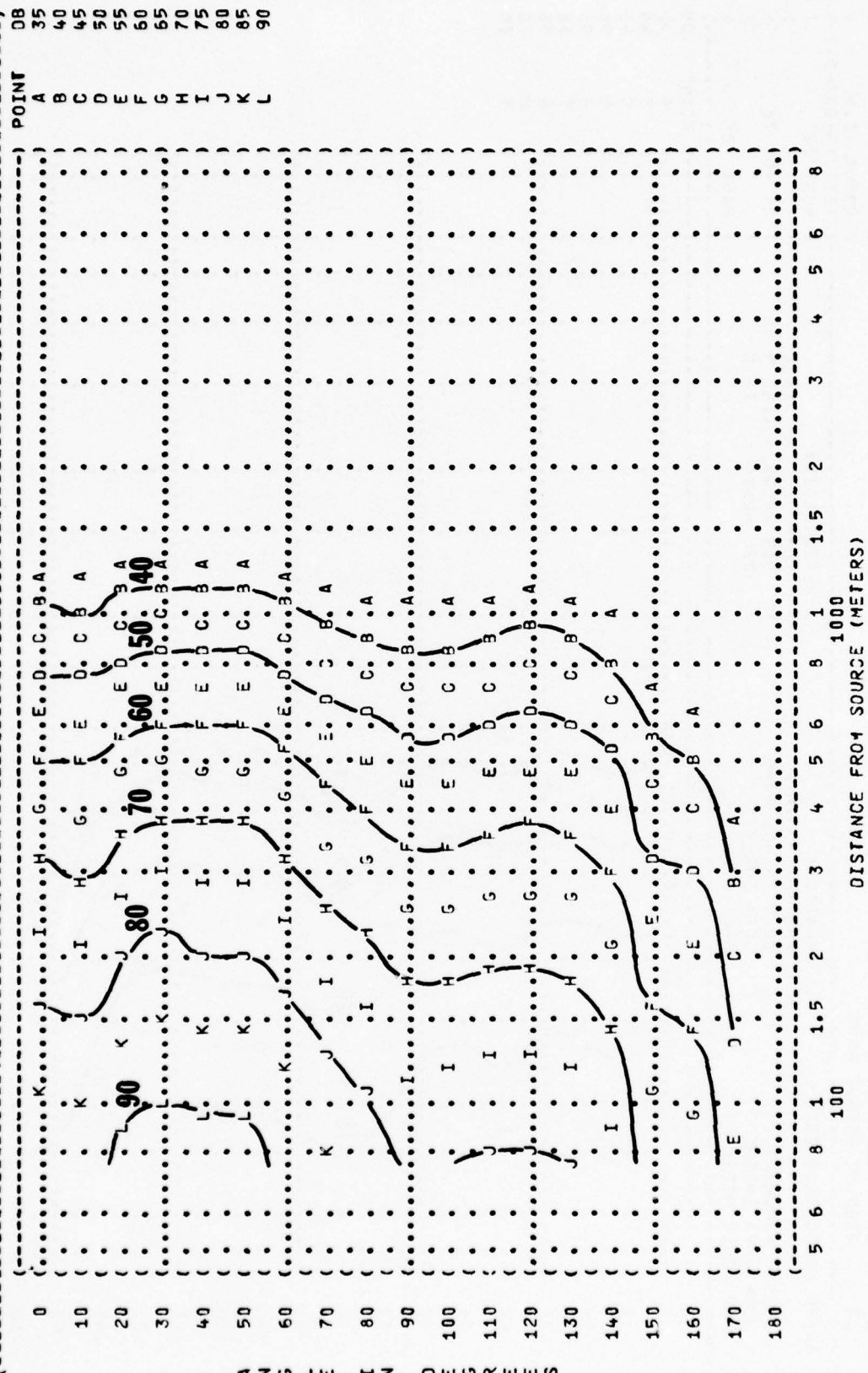
A N G L E I N D E G R E E S

DB	POINT
35	A
40	B
45	C
50	D
55	E
60	F
65	G
70	H
75	I
80	J

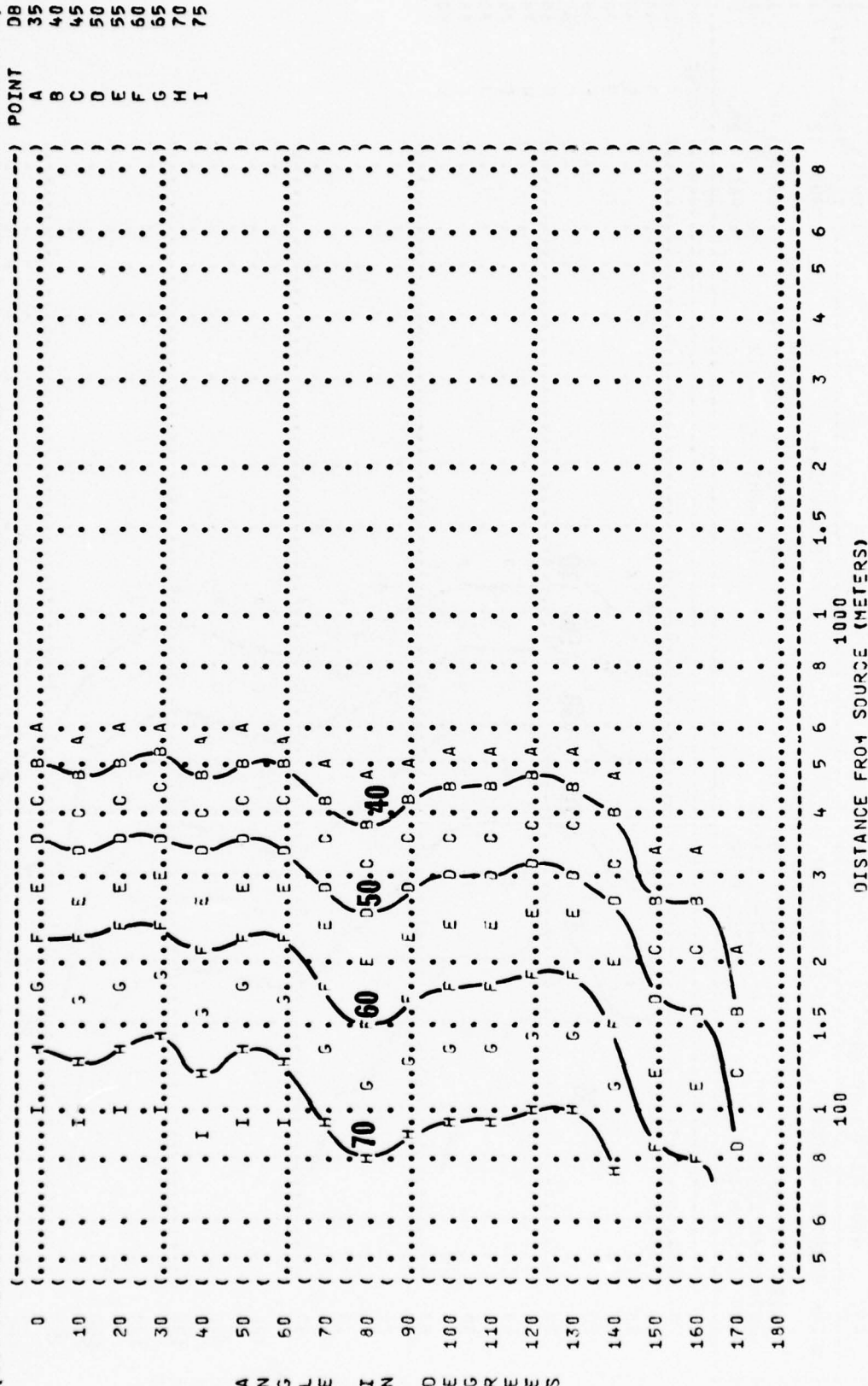


420 JW HZ 011045WWS

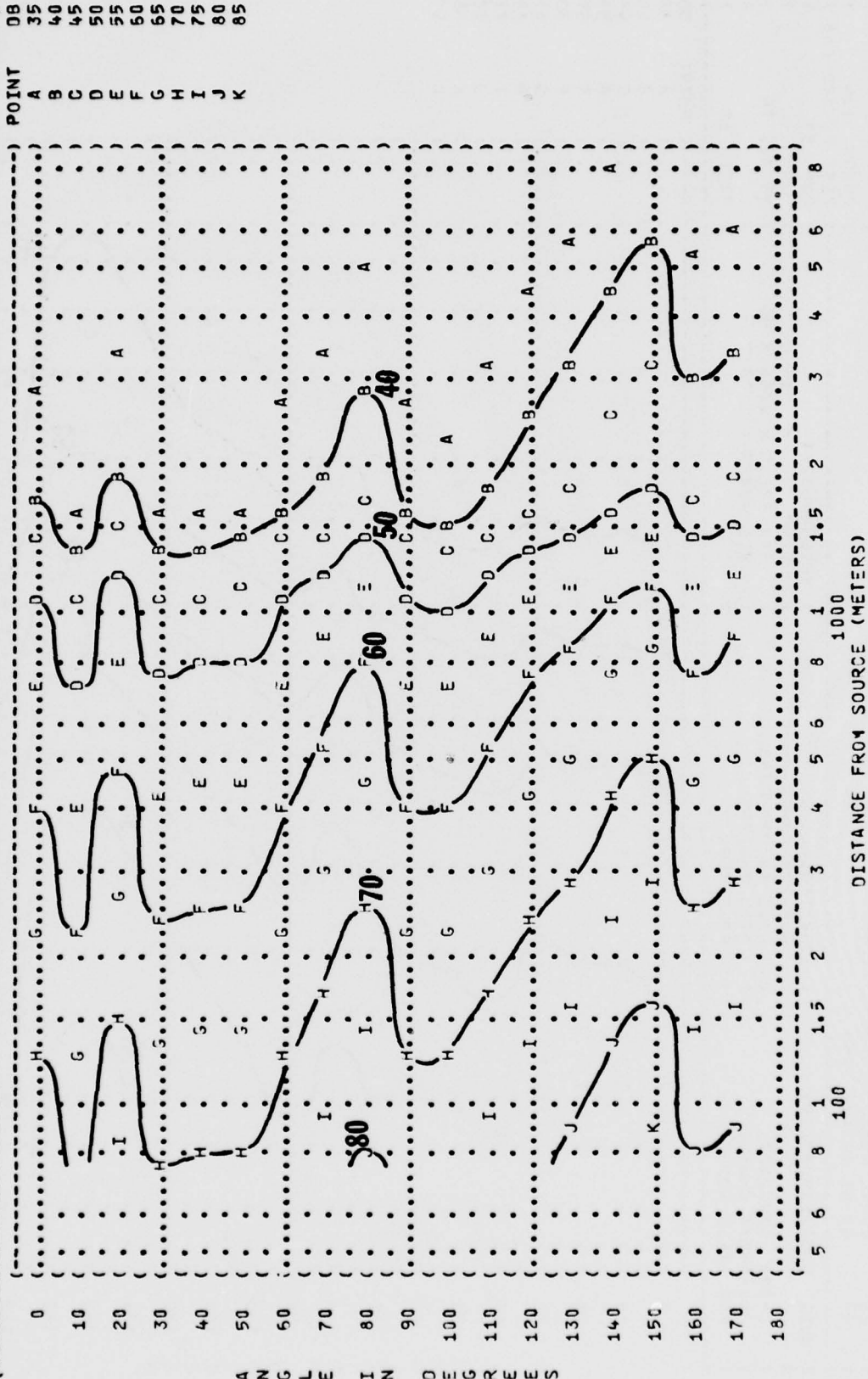
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 ( EQUAL LEVEL CONTOURS (DB) ) )  
 ( 11 4000 HZ OCTAVE BAND ) OMEGA 1.4 )  
 ( ) TEST 75-002-048 )  
 ( NOISE SOURCE/SUBJECT: ) OPERATION: ) METEOROLOGY: )  
 ( ) 75% RPM POWER ) TEMP = 15 C )  
 ( T-39A AIRCRAFT ) 36.5 IN HG, PT-5 ) BAR PRESS = .760 M HG )  
 ( J60-P-3/A ENGINE ) 30TH ENGINES ) REL HUMID = 70 % )  
 ( FAR FIELD NOISE ) FREE FLOW )  
 ( ) PAGE 25 )



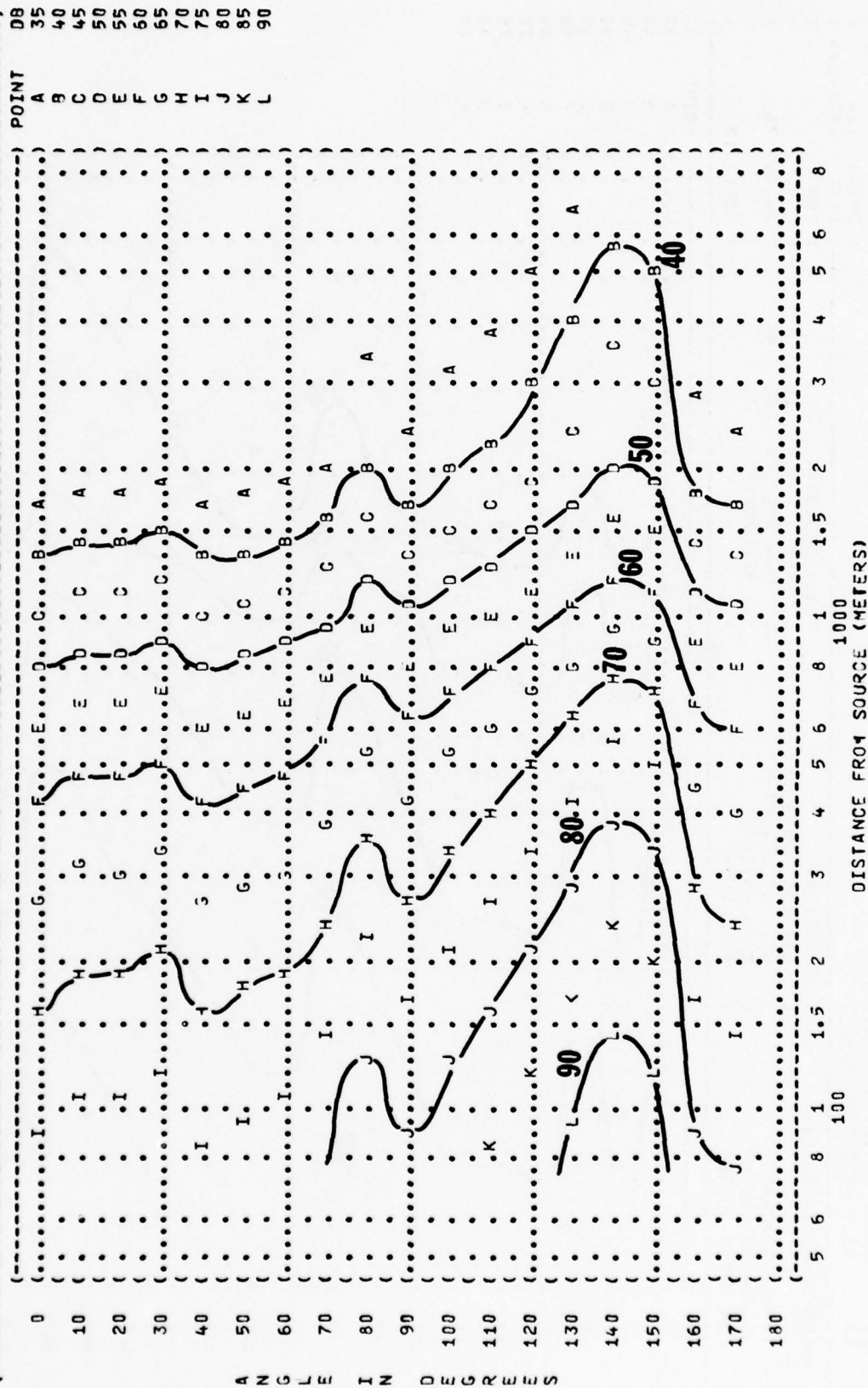
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 ( EQUAL LEVEL CONTOURS (DB)  
 ( 8000 HZ OCTAVE BAND  
 ( **11**  
 ( NOISE SOURCE/SUBJECT:  
 ( ( OPERATION:  
 ( ( 75% RPM POWER  
 ( ( 36.5 IN HG, PT-5  
 ( ( 60TH ENGINES  
 ( ( FREE FLOW  
 ( T-39A AIRCRAFT  
 ( J60-P-3/A ENGINE  
 ( FAR FIELD NOISE  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-048  
 ( RUN 02  
 ( 25 AUG 76  
 ( PAGE 26



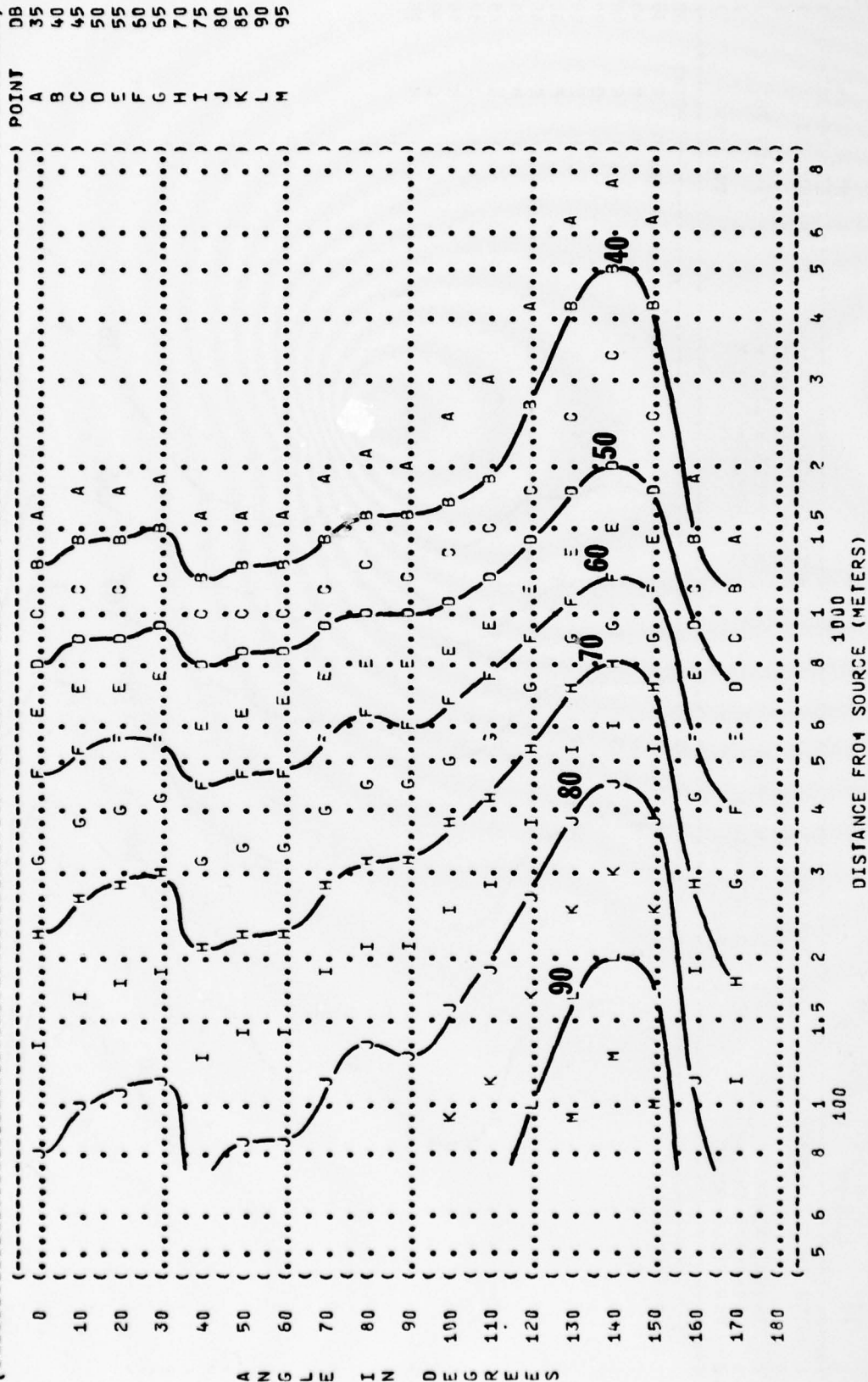
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 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 31.5 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( ( OPERATION:  
 ( ( 85% RPM POWER  
 ( ( 42.5 IN HG, PT-5  
 ( ( BOTH ENGINES  
 ( ( FREE FLOW  
 ( T-39A AIRCRAFT  
 ( J60-P-3/A ENGINE  
 ( FAR FIELD NOISE  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( 25 AUG 76  
 ( PAGE 18  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-048  
 ( RUN 03



( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (03)  
 ( 11 63 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( OPERATION:  
 ( 85% RPM POWER  
 ( 42.5 IN HG, PT-5  
 ( BOTH ENGINES  
 ( FREE FLOW  
 ( T-39A AIRCRAFT  
 ( J60-P-3/A ENGINE  
 ( FAR FIELD NOISE  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-048  
 ( RUN 03  
 ( 25 AUG 76  
 ( PAGE 19

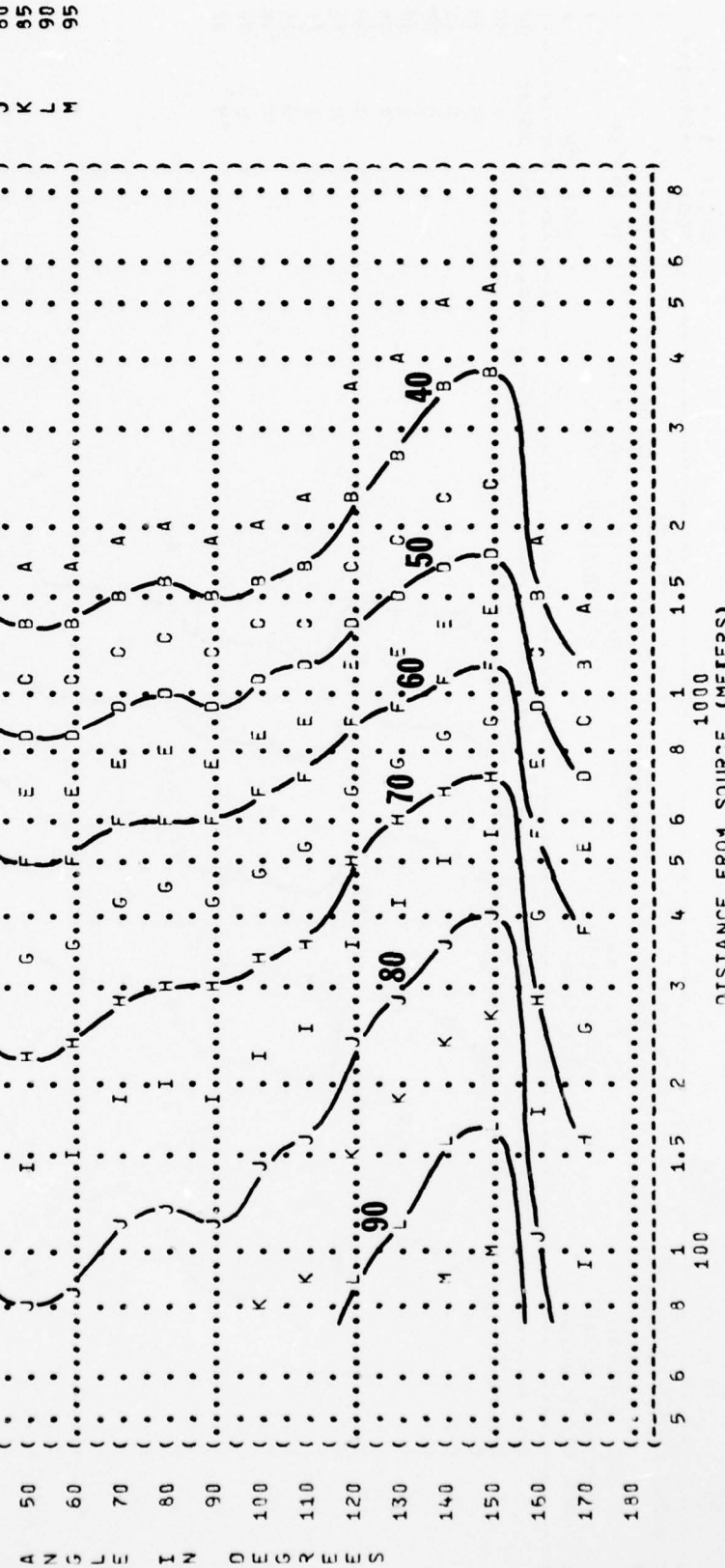


( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 125 HZ OCTAVE BAND  
 ( 11  
 ( NOISE SOURCE/SUBJECT: ( OPERATIONS:  
 ( ( 85% RPM POWER  
 ( ( 42.5 IN HG, PT-5  
 ( ( BOTH ENGINES  
 ( ( FREE FLOW  
 ( T-39A AIRCRAFT  
 ( J60-P-3/A ENGINE  
 ( FAR FIELD NOISE  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-048  
 ( RUN 03  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( PAGE 20



[illegible]

DB	POINT
35	A
40	B
45	C
50	D
55	E
60	F
65	G
70	H
75	I
80	J
85	K
90	L
95	M



IDENTIFICATION:  
OMEGA 1.4

OMEGA 1.4

## METEOROLOGY:

**( OPERATION:**

```

) TEMP = 15 C )
) BAR PRESS = .760 M HG ) 25 AU: 76
) REL HUMID = 70 % )
) ) ) PAGE 22
)

```

25 AUG 76  
PAGE 22



DISTANCE FROM SOURCE (METERS)

426 JW HZ 050645WWS

### IDENTIFICATION:

11

1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:

( OPERATION:

T-39A AIRCRAFT  
J60-P-3/A ENGINE  
FAR FIELD NOISE

( 85% RPM POWER  
( 42.5 IN HG, PT-5  
( BOTH ENGINES  
( FREE FLOW

### 1) METEOROLOGY:

```

TEMP      = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

```

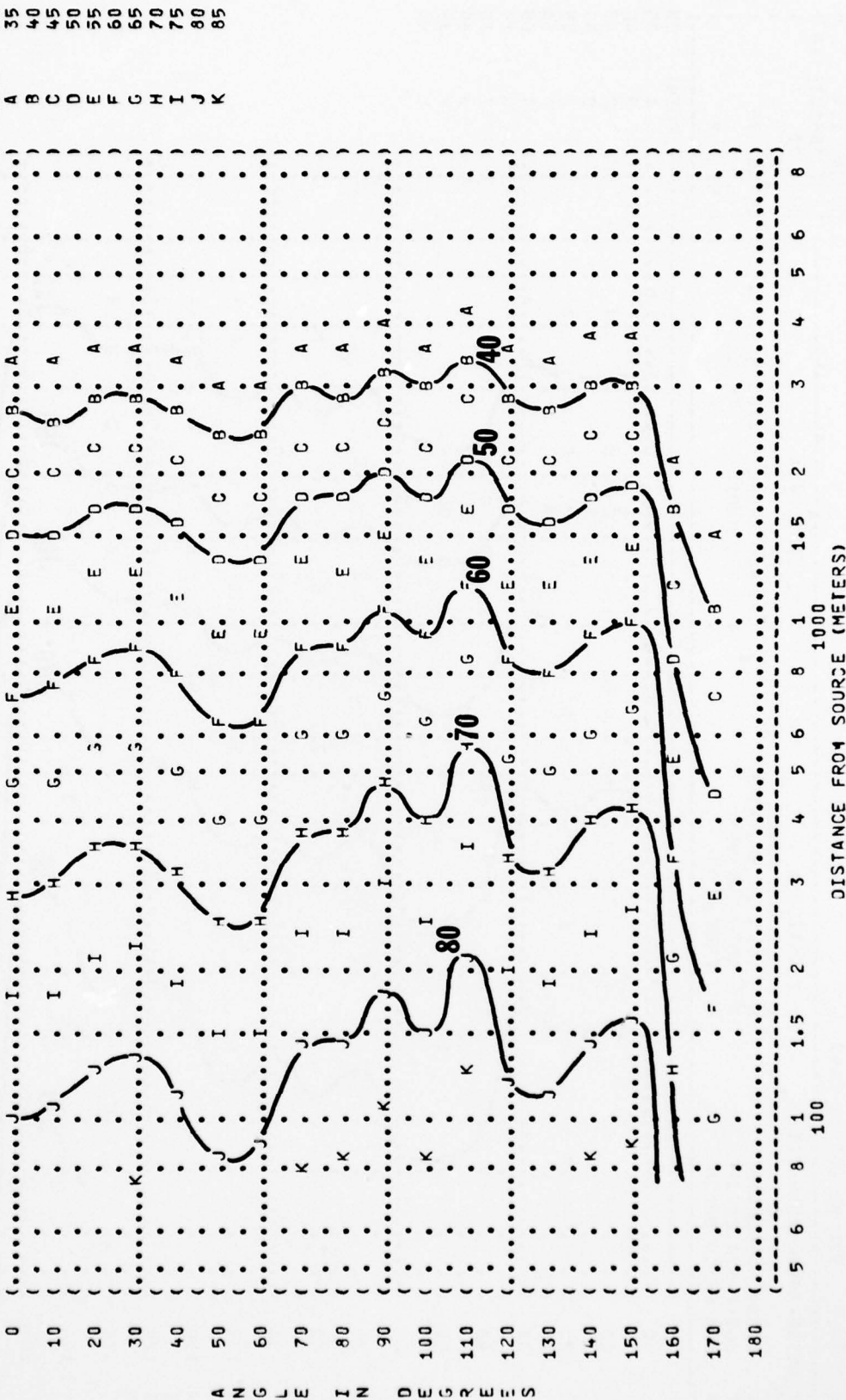
0 RUN 03

25 AU5 76

PAGE 23

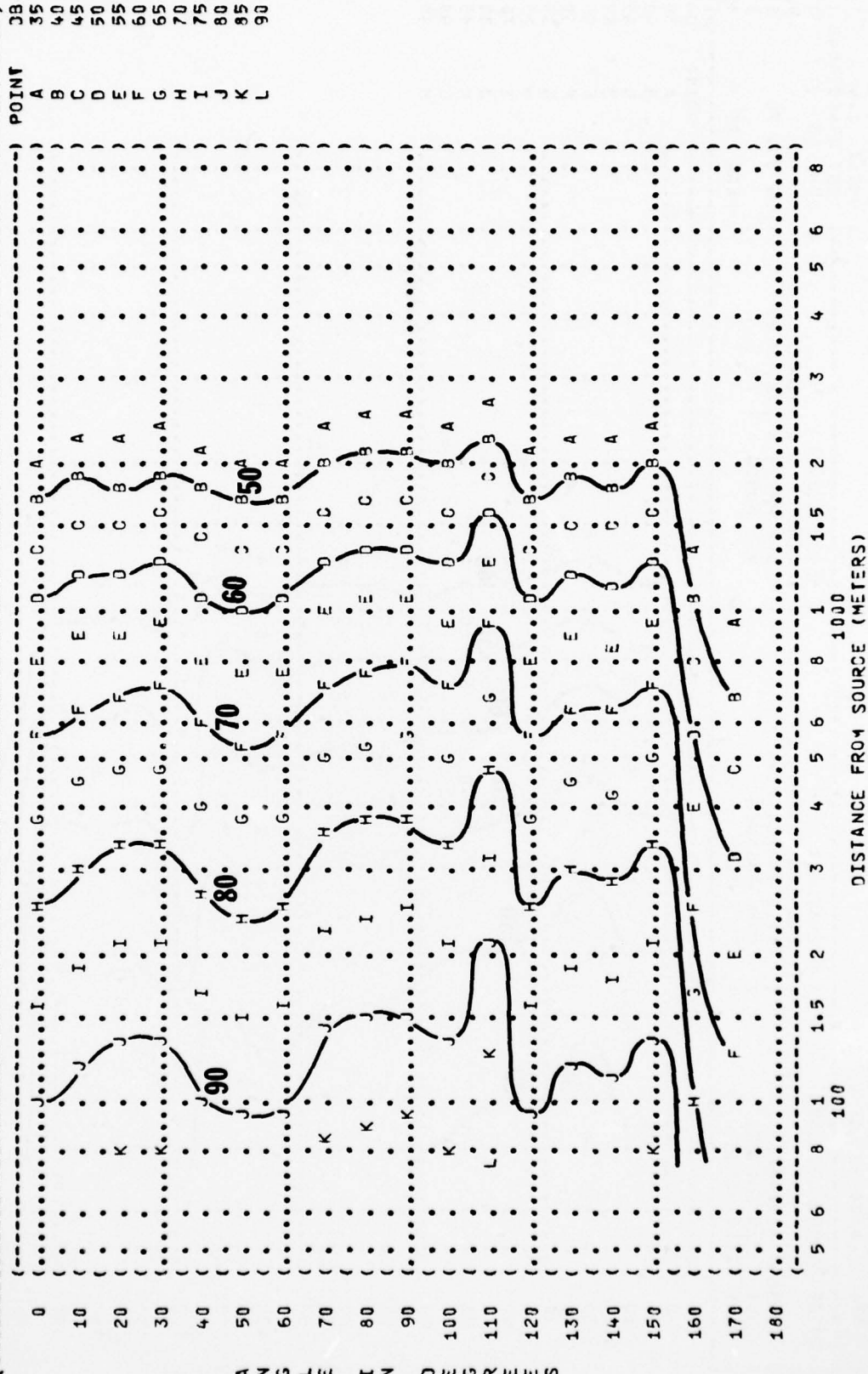
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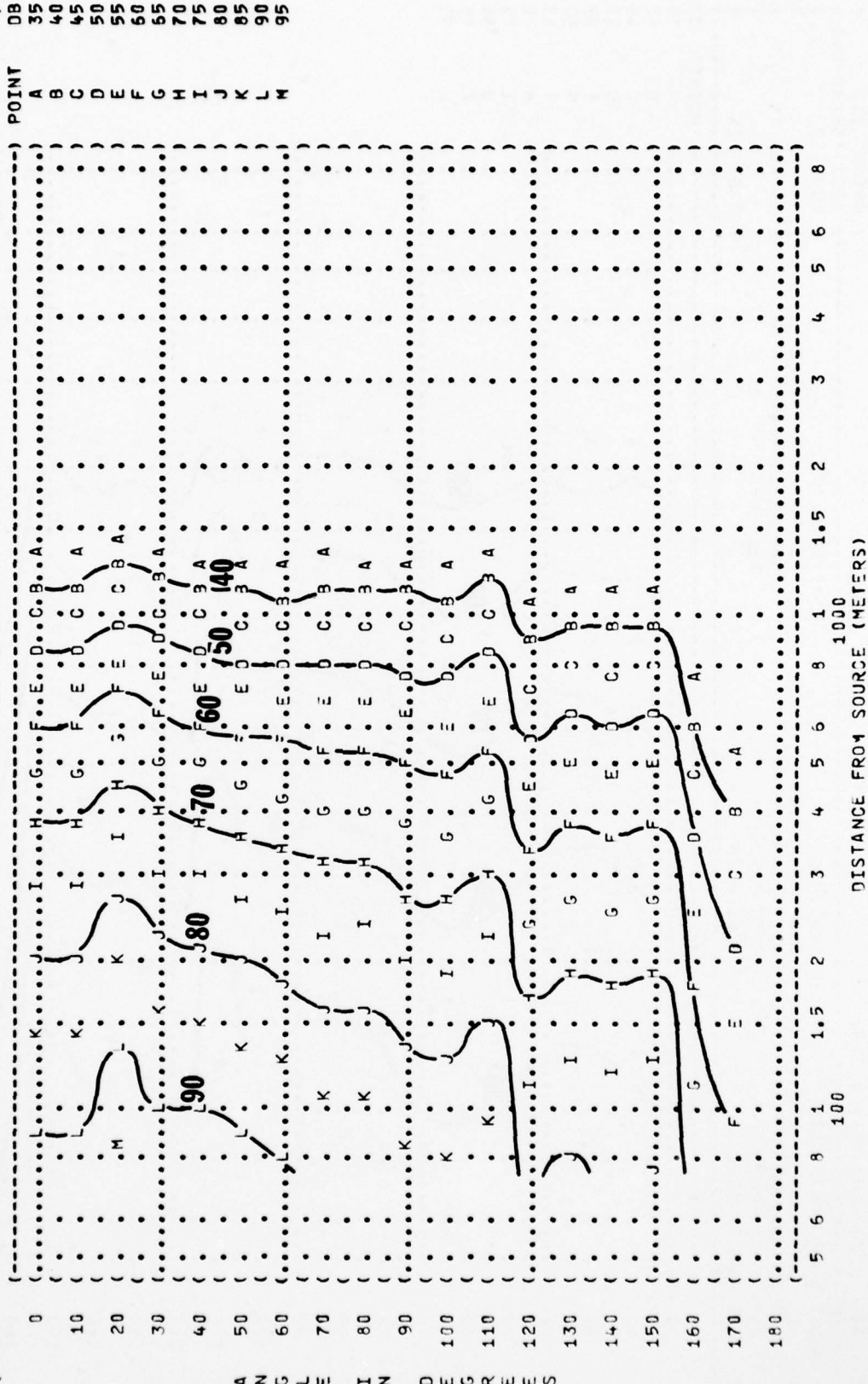


1000  
DISTANCE FROM SOURCE (METERS)

( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 2000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( ( OPERATION:  
 ( ( 85% RPM POWER  
 ( ( 42.5 IN HG, PT-5  
 ( T-39A AIRCRAFT  
 ( J60-P-3/A ENGINE  
 ( FAR FIELD NOISE  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-048  
 ( RUN 03  
 ( 25 AUG 76  
 ( PAGE 24



( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 4000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( ( OPERATION:  
 ( ( 85% RPM POWER  
 ( ( 42.5 IN HG, PT-5  
 ( ( BOTH ENGINES  
 ( ( FREE FLOW  
 ( T-39A AIRCRAFT  
 ( J60-P-3/A ENGINE  
 ( FAR FIELD NOISE  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-048  
 ( RUN 03  
 ( 25 AUG 76  
 ( PAGE 25



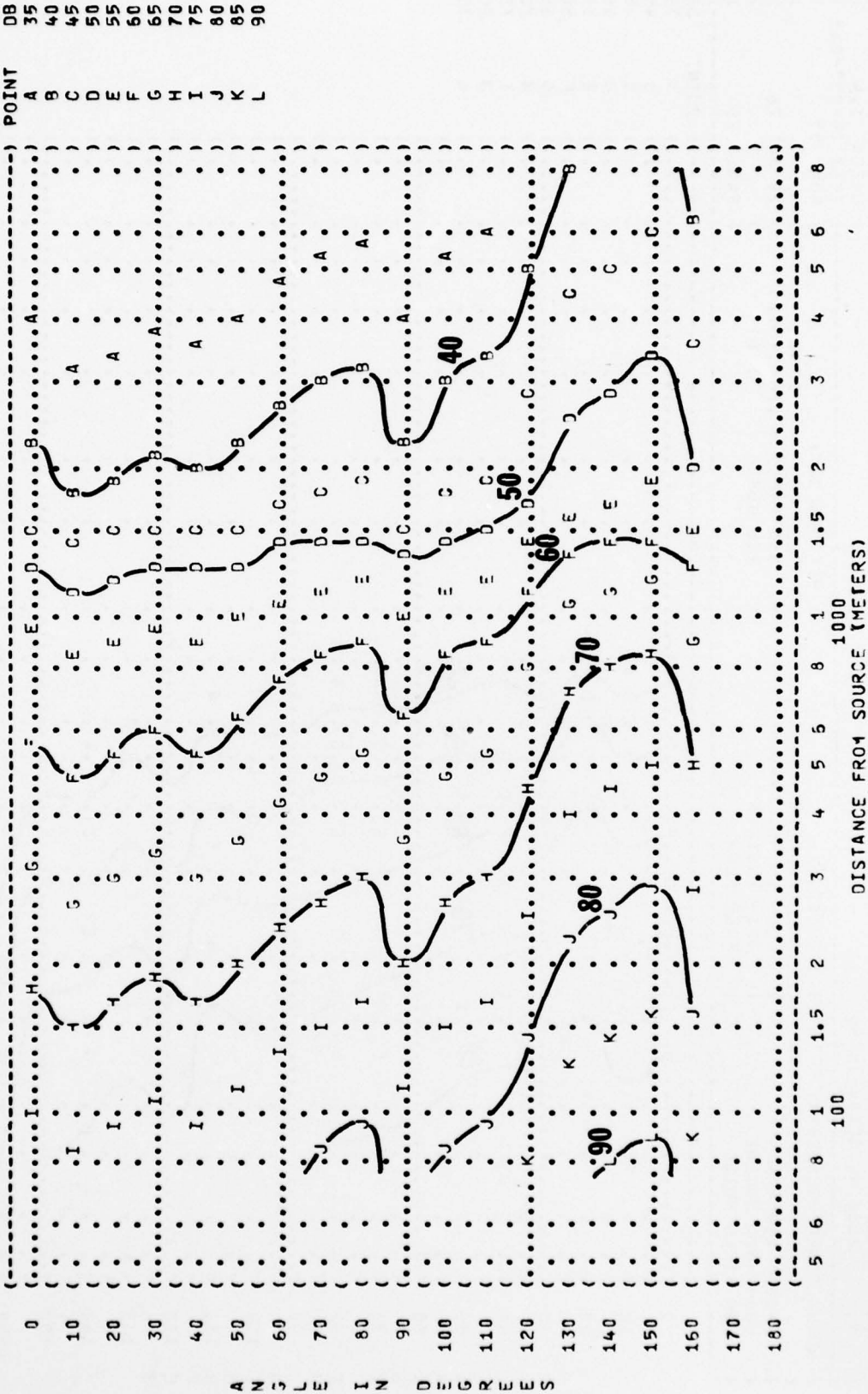
A N G L E I N D E G R E E S

( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 8000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION: ( METEOROLOGY: ( POINT DB  
 ( T-39A AIRCRAFT ( 85% RPM POWER ( TEMP = 15 C ( A 35  
 ( J60-P-3/A ENGINE ( 42.5 IN HG, PT-5 ( BAR PRESS = .760 M HG ( B 40  
 ( FAR FIELD NOISE ( BOTH ENGINES ( REL HUMID = 70 % ( C 45  
 ( ( FREE FLOW ( ) ( D 50  
 ( ) ( ) ( ) ( E 55  
 ( ) ( ) ( ) ( F 60  
 ( ) ( ) ( ) ( G 65  
 ( ) ( ) ( ) ( H 70  
 ( ) ( ) ( ) ( I 75  
 ( ) ( ) ( ) ( J 80  
 ( ) ( ) ( ) ( K 85

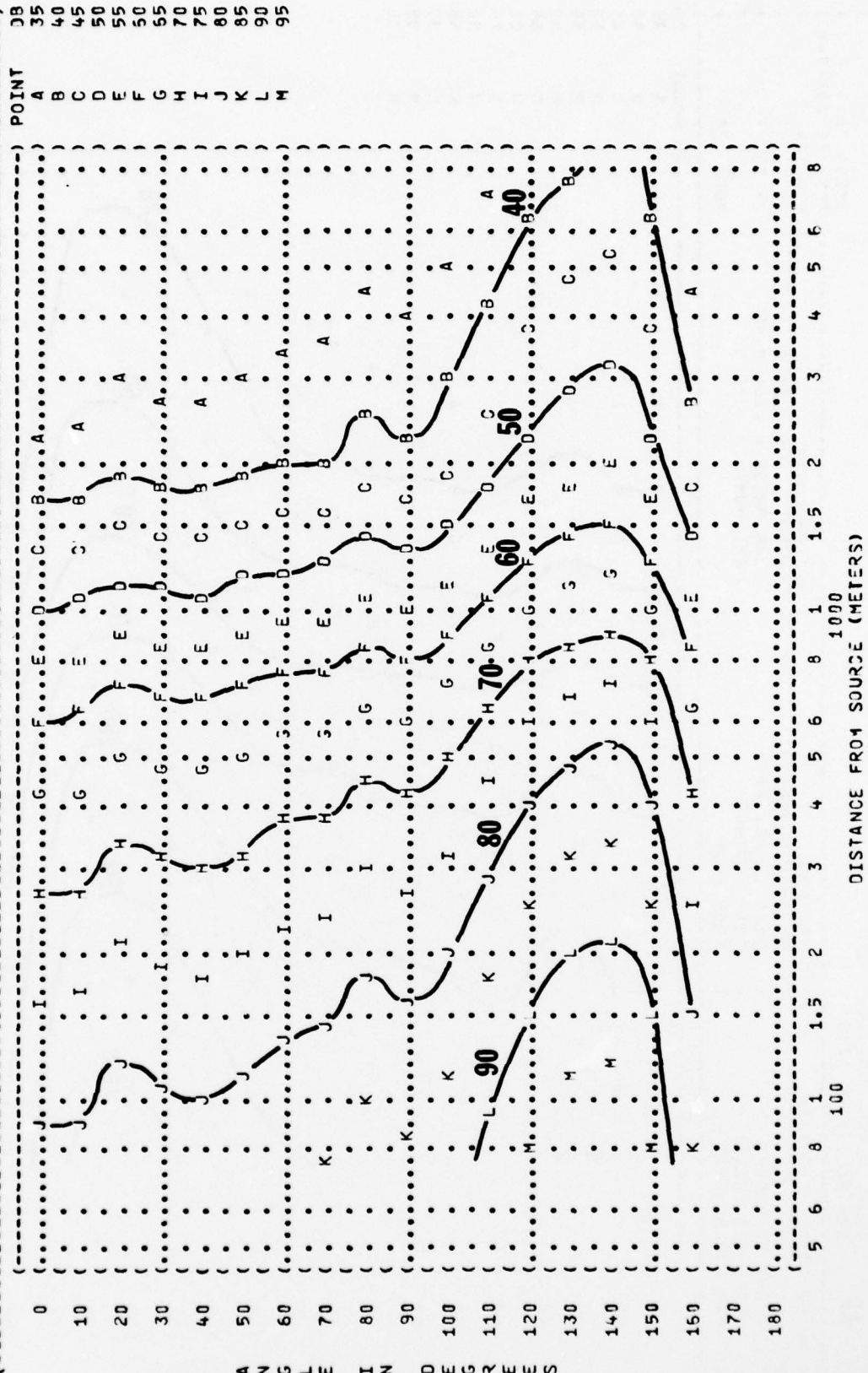


DISTANCE FROM SOURCE (METERS)

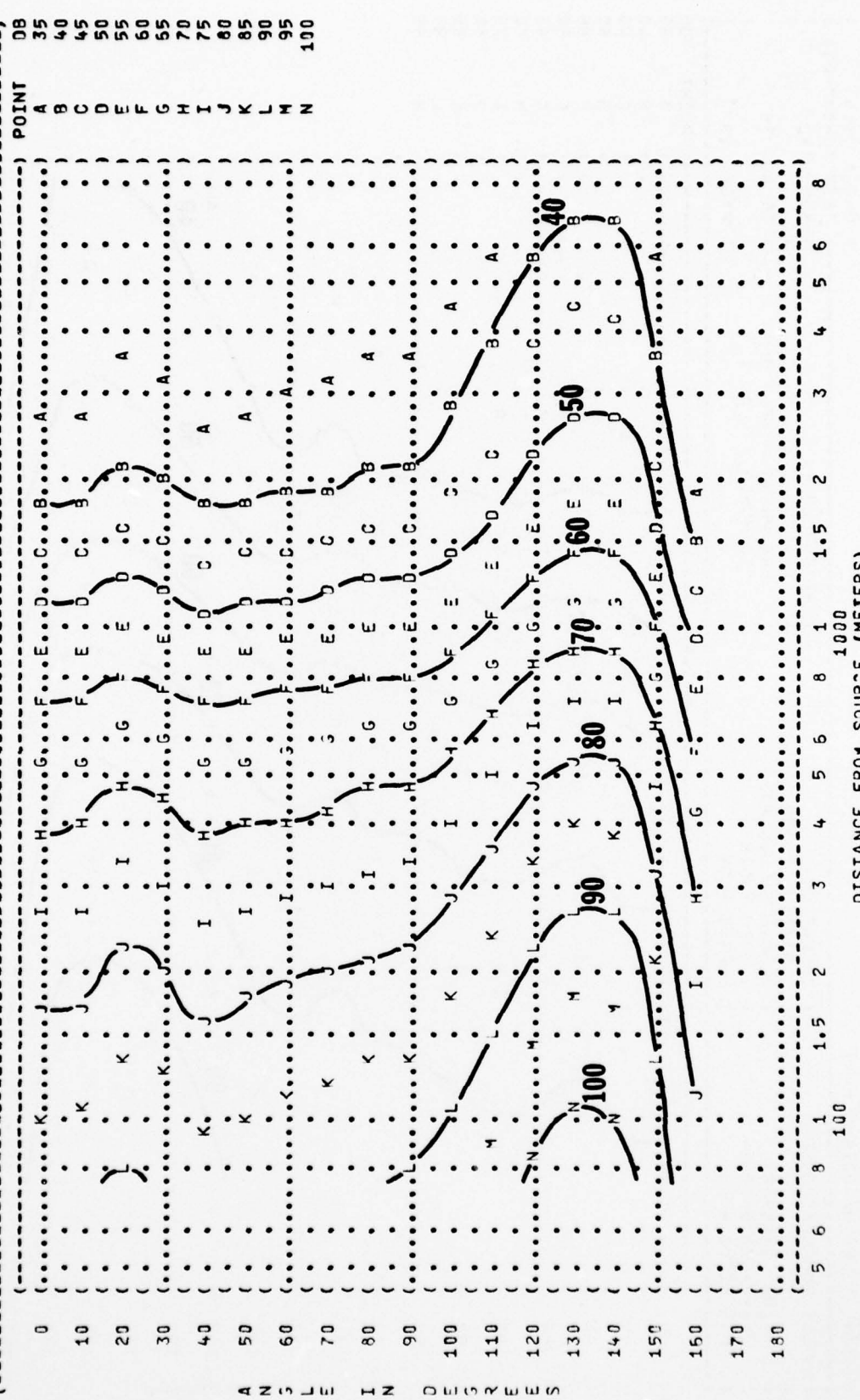
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 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 31.5 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( T-39A AIRCRAFT )  
 ( J60-P-3/A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( MAXIMUM POWER )  
 ( 56.5 IN HG, PT-5 )  
 ( BOTH ENGINES )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-048 )  
 ( RUN 04 )  
 ( 25 AUG 76 )  
 ( PAGE 18 )



ANGLE IN DEGREES

[illegible]

( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 125 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( OPERATION: )  
 ( T-39A AIRCRAFT )  
 ( J60-P-3/A ENGINE )  
 ( FAR FIELD NOISE )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( RUN 04 )  
 ( TEST 75-002-048 )  
 ( PAGE 20 )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )



A N S L E I N D E C S R E E S

FIGURE 1: SOUND PRESSURE LEVEL (SPL)  
EQUAL LEVEL CONTOURS (DB)  
250 HZ OCTAVE BAND

11

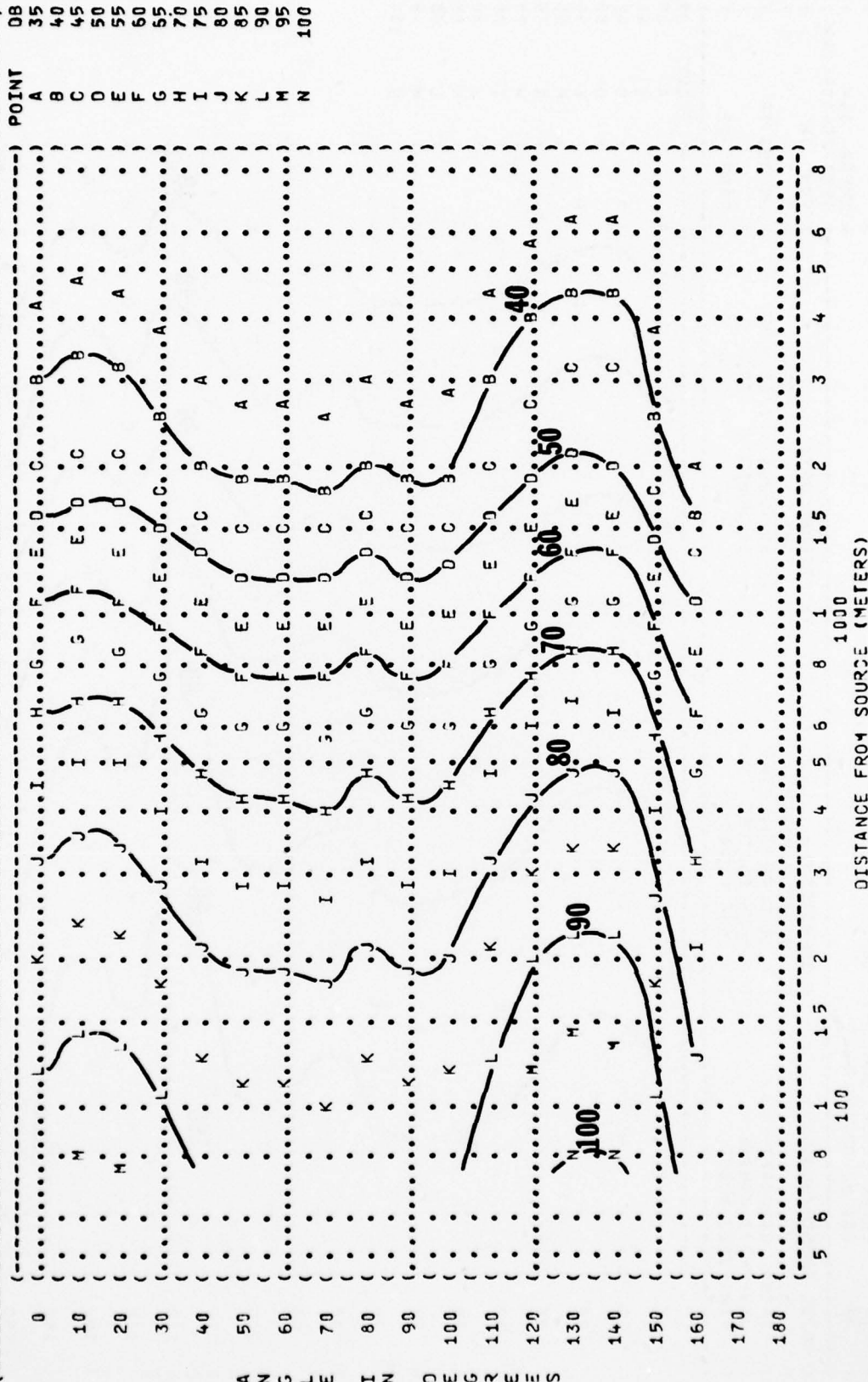
IDENTIFICATION:  
OMEGA 1.4  
TEST 75-002-048  
RUN 04

NOISE SOURCE/SUBJECT:  
T-39A AIRCRAFT  
J60-P-3/A ENGINE  
FAR FIELD NOISE

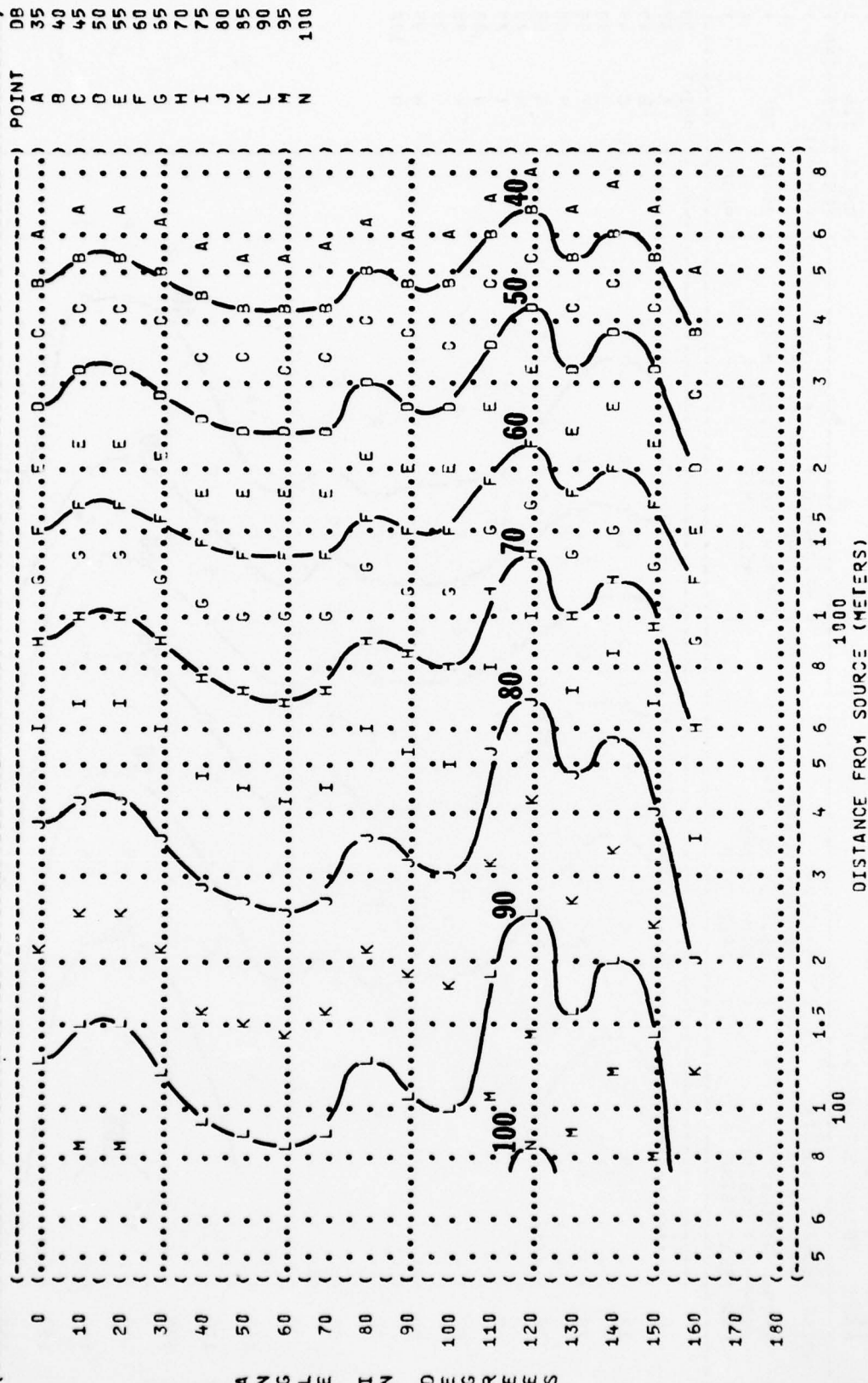
OPERATION:  
MAXIMUM POWER  
56.5 IN HG, PT-5  
BOTH ENGINES  
FREE FLOW

METEOROLOGY:  
TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

PAGE 21

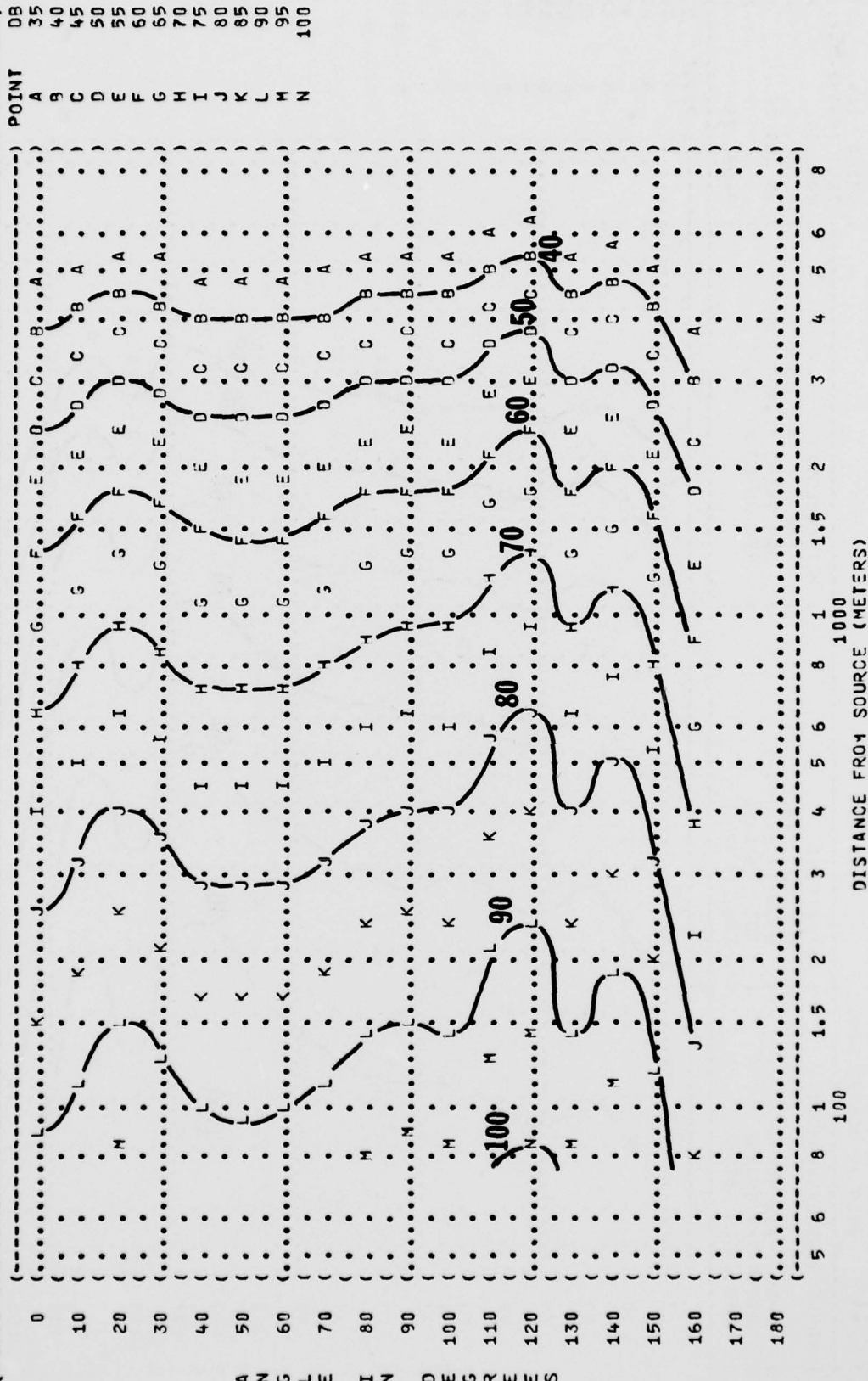


( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 500 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( T-39A AIRCRAFT )  
 ( J60-P-3/A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( MAXIMUM POWER )  
 ( 56.5 IN HG, PT-5 )  
 ( BOTH ENGINES )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-048 )  
 ( RUN 04 )  
 ( 25 AUG 76 )  
 ( PAGE 22 )



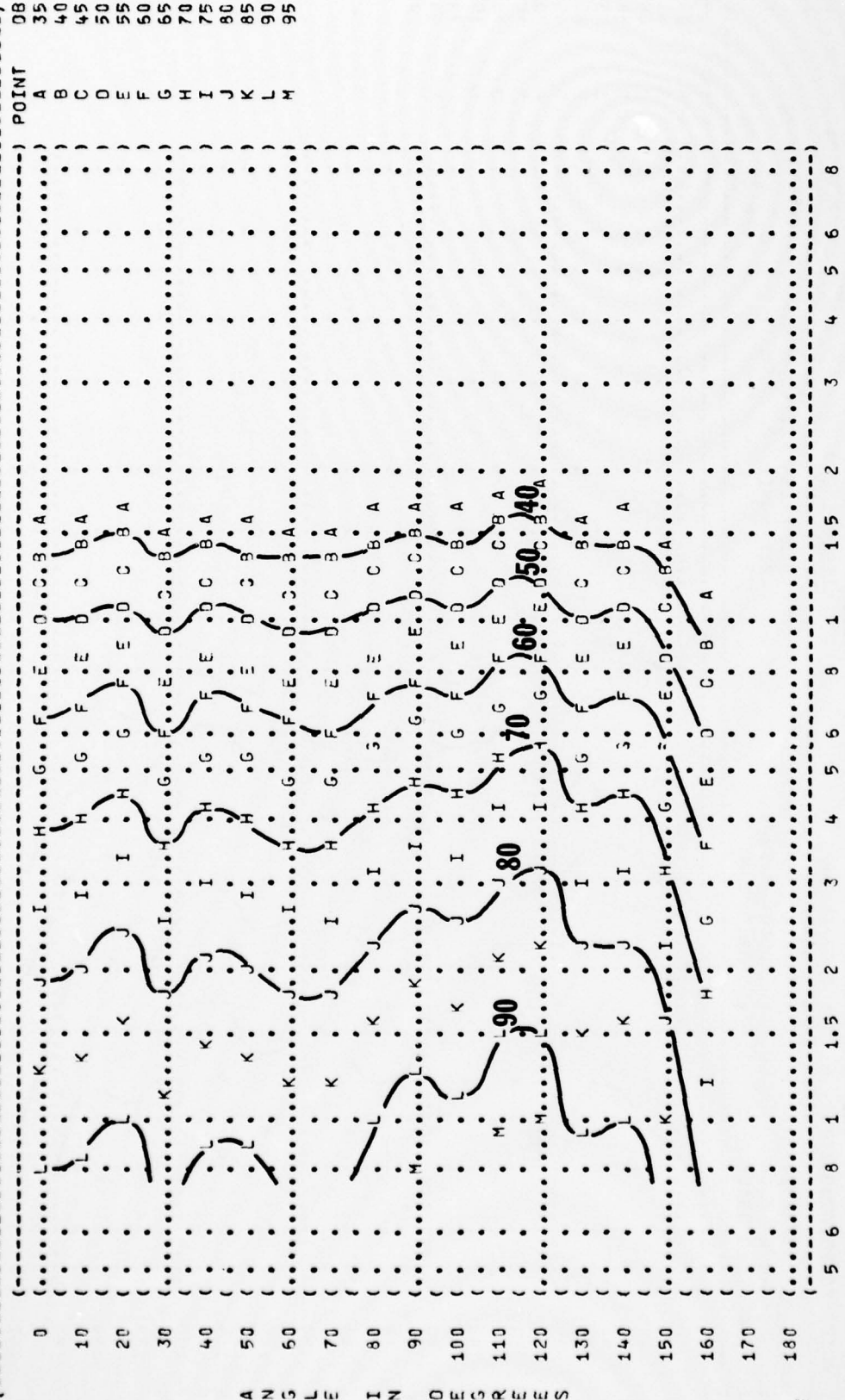
ANGLE IN DEGREES

( ( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( ( EQUAL LEVEL CONTOURS (DB)  
 ( ( 11 1000 HZ OCTAVE BAND  
 ( ( NOISE SOURCE/SUBJECT: ( OPERATION: ( METEOROLOGY:  
 ( ( ( MAXIMUM POWER ( TEMP = 15 C  
 ( ( ( 56.5 IN HG, PT-5 ( BAR PRESS = .760 M HG  
 ( ( ( BOTH ENGINES ( REL HUMID = 70 %  
 ( ( ( FREE FLOW ( )  
 ( ( T-39A AIRCRAFT ( )  
 ( ( J60-P-3/A ENGINE ( )  
 ( ( FAR FIELD NOISE ( )  
 ( ( ) IDENTIFICATION: ( )  
 ( ( ) OMEGA 1.4 ( )  
 ( ( ) TEST 75-002-048 ( )  
 ( ( ) RUN 34 ( )  
 ( ( ) 25 AUG 76 ( )  
 ( ( ) PAGE 23 ( )





( ) FIGURE: SOUND PRESSURE LEVEL {SPL}  
 ( ) EQUAL LEVEL CONTOURS (DB)  
 ( ) 4000 HZ OCTAVE BAND  
 ( ) NOISE SOURCE/SUBJECT:  
 ( ) OPERATION:  
 ( ) MAXIMUM POWER  
 ( ) 56.5 IN HG, PT-5  
 ( ) J60-P-3/A ENGINE  
 ( ) FAR FIELD NOISE  
 ( ) METEOROLOGY:  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .769 M HG  
 ( ) REL HUMID = 70 %  
 ( ) IDENTIFICATION:  
 ( ) OMEGA 1.4  
 ( ) TEST 75-002-048  
 ( ) RUN 04  
 ( ) 25 AUG 76  
 ( ) PAGE 25



DISTANCE FROM SOURCE (METERS)

AD-A048 937

AEROSPACE MEDICAL RESEARCH LAB WRIGHT-PATTERSON AFB OHIO F/G 20/1  
USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK. VOLUME 97. T-39 AIRC--ETC(U)  
MAY 77 R G POWELL, N A FARINACCI

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FIGURE: SOUND PRESSURE LEVEL (SPL)  
 EQUAL LEVEL CONTOURS (DB)  
 8000 HZ OCTAVE BAND

IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-002-048  
 RUN 04

NOISE SOURCE/SUBJECT:  
 T-39A AIRCRAFT  
 J60-P-3/A ENGINE  
 FAR FIELD NOISE

OPERATION:  
 MAXIMUM POWER  
 56.5 IN HG, PT-5  
 BOTH ENGINES  
 FREE FLOW

METEOROLOGY:  
 TEMP = 15 C  
 BAR PRESS = .760 M-13  
 REL HUMID = 70 %

PAGE 26

